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AMERICAN BEE JOURNAL  
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AUGUST 1932

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## Our Cover Picture

I can well remember twenty years ago, when Mary Elizabeth was "just a tot," what real pleasure Grandpa Dadant got out of dropping in at Maurice's house, just next door to his own, and playing with the granddaughter. And the play was reciprocal. It's like many of our other pleasures; if we had them to do in the course of our work we'd think them a chore.

So it was with grandpa. He took some of the worst beard pullings of his career, and yet took it and liked it. In fact he came every day for more. And then, not satisfied, he had a picture taken of it, as you see in the upper picture on the cover.

Time passed, as time will pass to those who are busy and who get pleasure in life out of the everyday household occurrences. Grandpa got older, although to us at the office there isn't much change in him in the twenty years which elapsed before the second and lower picture was taken. Grandpa may be older, but his love for the home and the life of the home is undimmed.

So, when news came that Maurice, next door, had stepped up to the grandfather position and that Mr. and

Mrs. C. P. were now great-grandparents for the first time, there was elation, and likewise impatience, till the day when the great-grandson, also Maurice, should be back in Hamilton for a visit.

And all the while, greatgrandpa, who used to be just grandpa, was not the least impatient of the lot. He got out the old picture of twenty years ago and wondered if the little imp, Maurice, when he arrived, would know his place well enough to tantalize also by pulling his beard. Well, you see he was not disappointed. The boy took to that beard like a duck to water. Not many of us have beards nowadays, but a lot of us would grow them if we could be assured that in time there would be a great-grandchild sitting on our knee to pull at the beard until it really hurt but felt mighty good at the same time.

And don't forget that there is another member of the family who doesn't let baby ways escape her. Great-grandmother slips over every afternoon when she can get away unnoticed, to have the little one all to herself. So far neither the parents nor the grandparents mind it a bit if she fudges a little and teeters the rocker back and forth as she talks baby talk to her great-grandchild.

## THE AMERICAN BEE JOURNAL

Established by Samuel Wagner in 1861

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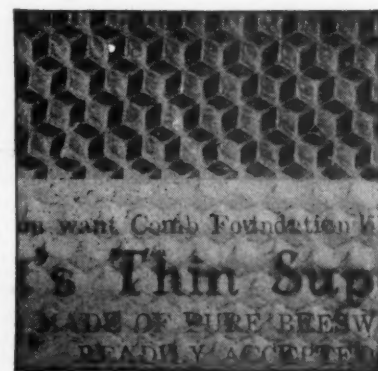
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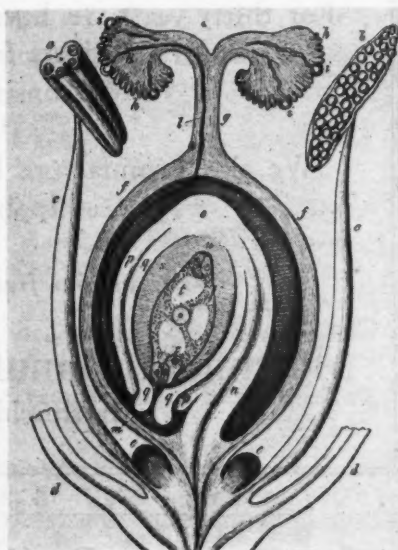
## What Is Pollination?

By John H. Lovell  
Maine

THE pollination of flowers has been called the most important branch of agriculture. It is closely related to the welfare of the farmer, the fruit grower and florist, and, as bees surpass all other insects in value as pollinators of flowers, to the bee-keeper as well. Yet it is very imperfectly understood by most persons, and the older botanists did not distinguish pollination from fertilization. I find that very few business men even know what pollen is, and the term fertilization is still often used to include pollination.

Not many years ago it was generally believed that flowers had been created solely for the purpose of giving pleasure to mankind by their brilliant colors, graceful forms, and sweet odors. Quite recently a famous editor of a popular journal declared that there was no apparent reason why the earth should have been strewn with flowers at the time of Adam. "They were of no particular use; there was only one man to see them." But if the human race had never come into existence the wild flowers, except that they would be more abundant, would be essentially the same as they are today. They have been developed not to please man, but because of their use to the plants bearing them. Their purpose is to bring about pollination.

In order, then, to understand pollination it is necessary to be familiar with the organs of the flower and their use. Let us take for study some well-known blossom as the bass-wood flower. Turn to Fig. 1 and you will notice that it is composed of numerous nail-like organs in the center, surrounded by two circles of leaves. The outer circle, which is green colored, is called the calyx, or little cup, and serves to protect the more tender inner members. The second circle is known as the corolla, or crown, and very often is bright



Lengthwise section of a very simple flower showing pollination and fertilization. The floral leaves (calyx and corolla) have been cut away. cc, stamens; a, cross-section of an unopened anther; b, lengthwise section of an open anther filled with pollen; hh, the roughened, sticky stigmas on which are five grains of pollen, ii. Pollination is the transfer of pollen from the anthers to the stigmas.

Fertilization. ff, ovary or seed-pod in which is a single seed, o. Four of the pollen grains have put out short tubes; one, l, has grown down through the stem or style and wall of the seed, which it has entered through a small opening in its lower end. A sperm or male cell passes out of the apex of the tube and unites with the egg-cell, z. This is fertilization.

hued to attract the attention of insects or birds.

The central organs are the stamens and pistil. The stamens are numerous, with long, slender stems tipped with two-lobed knobs, or hollow sacs, filled with fine yellow grains known as pollen. The single pistil stands directly in the center. At its base is the ovary, or seed pod, in which the seeds develop. Rising from the ovary is the stem, or style, capped by the five-lobed stigma, which is glutinous.

Pollination is merely the transfer of pollen from the anthers to the sticky stigma. If the pollen comes from the same flower it is self-pollination, but if from a different flower, cross-pollination. The transfer of the pollen may be made by the wind, insects, or birds, or automatic self-pollination is often brought about by movements of the stamens or pistils.

It would seem as though anyone who reads carefully the above description should have no difficulty in understanding the nature of pollination. It is quite distinct from fertilization. There are thousands of cases in which pollination occurs, but fertilization does not follow. The flower may be self-sterile to its own pollen, or pollen may be brought by the wind or by insects, especially flies, from widely different flowers, which is not suitable to effect fertilization.

Fertilization is somewhat more difficult to understand than pollination. If the proper conditions exist and the pollen on the stigma is suitable, each grain germinates and sends out a slender tube which grows down through the porous stem of the pistil until it comes to a young seed in the seed pod. It enters the seed by a little opening and there passes from the end of the tube a small specialized cell, known as the sperm or male cell, which fuses with another larger specialized cell in the seed, called the egg cell. This is fertilization. It does not always occur immediately after pollination. In the case of pine trees it may not take place until two years after pollination. Fertilization is thus the union of two specialized cells of unequal size.

If the pollen is from the same flower it is self-fertilization; but if from a different flower it is cross-fertilization. After fertilization the egg cell grows into an embryonic plant consisting of a stem and one, two or more leaves, according to the



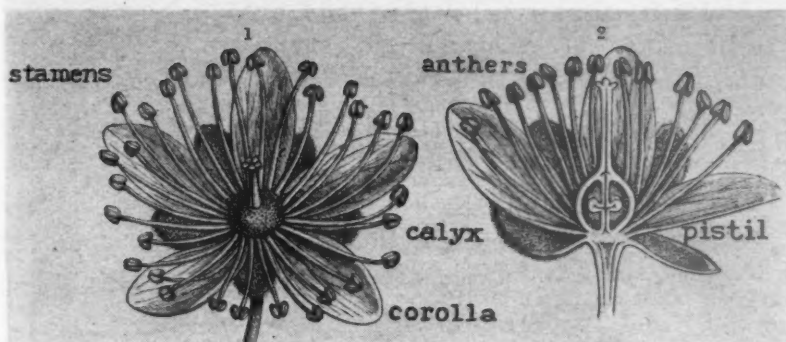


Diagram of a basswood flower. 1, entire flower; 2, lengthwise section of pistil showing seeds in the ovary or seed-pod. The outer whorl of leaves is the calyx; the inner whorl, the corolla; the numerous pin-like organs are the stamens, tipped with the anthers filled with pollen; in the center is the pistil; the globular base is the seed-pod or ovary; the stem above is the style, bearing at its apex the stigma.

group of plants. Hence the seed has been called the nursery of the infant plant.

It is not possible to enter at length in this article on the advantages of cross-fertilization. Plants in a state of nature must be able to vary, or they are likely to perish, since they must from time to time adapt themselves to new conditions. Crossing secures greater variation. When two plants are crossed the offspring will inherit the characters of both and will consequently be more variable than either. They will be more vigorous than their parents, since beneficial characters are more likely to survive than those which are injurious, and more of them will be inherited. By inducing greater variation, crossing has played an important role in the development of the flowering plants. A most efficient helper in this work, both in the case of domesticated and wild plants, is the honeybee.

The immense importance of cross-fertilization in the flowering plants, both cultivated and wild, is shown by the almost numberless cases in which it occurs. That many domesticated fruits in the absence of crossing with other varieties remain self-sterile is well known. Few, however, appear to know that the majority of wild flowers are regularly or occasionally cross-pollinated and that many otherwise never produce seed. It would be profitable to examine the different plant families and observe the number and ways in which this result is brought about, but space prevents such a review in this article.

### Contract for Orchard Rental

Charles N. Ellis, of Westwood, Massachusetts, sends us a contract with the Massachusetts beekeepers working cooperatively in placing bees in New England orchards.

Mr. Ellis writes: "The Massachusetts beekeepers subscribing to the rental agreement are five close friends, not incorporated, not organized, but we practice cooperative buying and cooperative advertising,

each one conducting his own business in his own territory. We respect the other fellow's territory, have the same prices and swap experiences.

"The rent agreement is original with us. This is the first season we have used it, but we have a number of orchardists signed up. Our usual price is \$5.00 per colony for orchards or cranberries and \$15.00 for cucumber greenhouses."

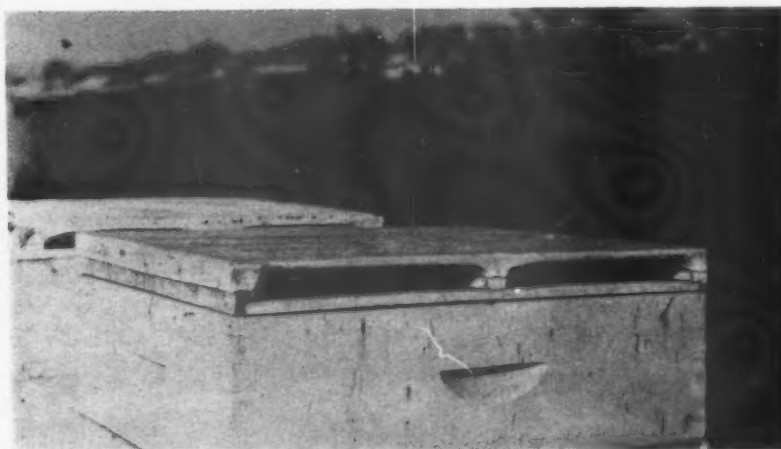
The rent agreement is about as follows: The orchardist and the beekeeper agree that the renter agrees

to rent and the owner agrees to supply a given number of colonies of bees at the following terms:

Each colony contains five full frames or more of bees. The bees are to be moved in by the owner within three days after notification. Colonies to be placed a given number in a place and location to be agreed upon between renter and owner. The bees are rented for pollination service; swarms or honey belong to the owner. The owner may call at any reasonable hour to care for the bees. The owner takes full responsibility for weather, theft, or any condition not under control of the renter, but the renter agrees that neither he nor his employees will move the bees or take off the covers without the knowledge of the owner. Renter agrees to phone owner at owner's expense in case of swarm or other emergency. Owner agrees to remove bees within seven days after notification, and renter agrees to notify owner when he is through with the bees, or when he expects to spray.

In consideration of this service, the renter agrees to pay a stipulated amount on or before a certain date. This is signed by both parties.

### Florida Double Cover



The attached picture shows a type of cover in common use in the vicinity of Orlando, Florida. The picture was taken at the apiary of Roy King, who has several hundred of them in use.

The cover is flush with the sides of the hive and there is no projection to bother when piles of hives with covers are placed together in storage. The circulation of air across the top of the hive also makes it much cooler in heated periods and there are no projections in the way when handling the hives. Mr. King

stated that the hives with this kind of covers went through the hurricane in many cases with covers intact, while the telescope covers were all blown away.

It is made of strips of wood  $\frac{3}{4}$  of an inch in thickness. Three cross strips of wood provide an air space  $\frac{1}{4}$  of an inch. The top is covered with zinc, which insures long life. The complete cover is  $1\frac{1}{4}$  inches in thickness, inclusive of air space and two layers of material. It is light, cool and convenient, according to Florida beekeepers, who advocate its more general use.

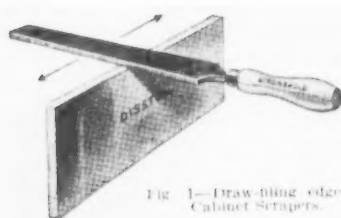


Fig. 1—Drawing edge of Cabinet Scrapers.



Fig. 2—Turning the edge of a Cabinet Scraper, using  $4\frac{1}{2}$ -inch Oval burnisher. In this manner the steel is first pressed out from the edge, then tipped over slightly, and finally bent at about 15 degrees from the edge on both sides. This is shown in Fig. 2.

Some experienced workmen sharpen the scraper by holding it vertical on the bench surface and drawing the burnisher up the edge, toward them, as in Fig. 2.



## Using a Cabinet Scraper for Cleaning Comb Honey Sections

By S. F. Haxton, Pennsylvania

**I**n "Fifty Years Among the Bees," Dr. C. C. Miller speaks enthusiastically of the satisfaction he received in using a cabinet scraper for cleaning comb honey sections, but adds that a cabinet scraper cannot be sharpened with a grindstone or whetstone, but must be sharpened in a peculiar manner which can be learned from any cabinet maker.

Anyone who ever has used a cabinet scraper for cleaning sections will never go back to a knife or to sandpaper, although he may use a motor-driven sandpaper belt, which has advantages over hand methods. A cabinet scraper cleans the entire width of the section at one stroke, removing all the propolis and stains and leaving the wood as clean as when new. It does not clog when paraffin has been used on the wood. It does a perfect job—quickly. It should do a perfect job, as a cabinet scraper is what the cabinet maker uses for a perfect finish after planing and sanding his wood.

The cabinet scraper is a rectangular piece of high-tempered handsaw steel, made in various sizes from 2x4" to 3x5". The sizes carried in most hardware stores—about 3x5"—are ideal for cleaning sections. The scraper when purchased has "dressed" or straight edges, ground true, but is not sharpened ready for use. The standard retail price on the best quality of 3x5" scraper at any hardware store is about 45 cents, but a

scraper of steel not so high in temper and quality may be bought for a quarter. It pays, however, to select the best.

The way to sharpen a cabinet scraper is shown in the accompanying drawings.

The first step is to place the scraper in a vise and file the cutting edge to the desired bevel. This is done with a fine or smooth-cut mill file eight or ten inches long, and the filing is done, not by moving the file back and forth across the edge of the scraper, but by moving it from side to side in the directions indicated by the arrows. Care should be taken to hold the file almost horizontally at first and put the desired bevel on the edge gradually, by lowering the hand that holds the file and slightly lifting the thumb and finger on the further end of the file.

The scraper may be sharpened either with a perfectly straight edge or with a considerable bevel. The best bevel to use in scraping sections is 30 degrees.

After the scraper is sharpened with the file it must be "burnished"—that is, the edge must be upset or given a "hook" which actually does the cutting when the scraper is in use. The burnishing is done best with a regular cabinet scraper burnisher, which is made on the same principle as a steel used for sharpening carving knives, except that it is oval in shape and only a few inches long. In the absence of a burnisher the tang (uncut) end of a saw file may be used effectively to burnish the scraper.

The sharpened scraper is left in the vise and the hook or cutting edge is placed on the scraper by moving the burnisher across it in the same way that the file was moved across it when sharpening was done. The first stroke starts forming the "hook," and subsequent strokes, at increased angles, complete it, as shown in the diagrams. Skilled cabinet makers rub the edge over an oil stone a few times before using it, to make sure that the edge is perfect.

After once being sharpened, a scraper may be reburnished several times before it requires resharpening. For use in scraping sections, it is best to sharpen only the two narrower edges of the scraper. A good scraper, if kept free from rust, will last for years and will save hours of time for anyone who uses it in cleaning sections.

## Bees Help Agriculture

An exchange appearing in a recent issue of the Chicago Herald and Examiner has this to say: "Bees worth millions of dollars to New York farmers. Honeybees as pollinators are estimated to be worth seven million dollars annually to the farmers of New York."



THE LATE S. W. SNYDER

## Death of S. W. Snyder

S. W. Snyder, of Center Point, Iowa, died on July 6. Mr. Snyder has long been prominent in Iowa beekeeping and horticultural circles. He was elected secretary of the Iowa Beekeepers' Association at the first convention held at Des Moines in 1912 and has been a director of the Iowa Horticultural Society for about twenty years. At one time he was president of the Northern Nut Growers' Association.

The Snyder farm held much of interest to a wide circle of nature lovers. About two hundred colonies of bees were kept along with a great variety of horticultural enterprises. There was an extensive orchard of nut trees, as well as extensive planting of fruits and flowers. At one time there was something like a hundred varieties of plums growing in the orchards. In partnership with his brother, Snyder conducted an extensive nursery and also a dairy business.

There are few men who are able to cultivate successfully such a great variety of interests. In recent years he has come to be regarded as a leading authority on native nuts of the Middle West and his services have been in demand as a judge of nut exhibits.

He has been a regular attendant at the conventions of the Iowa Horticultural Society for many years. With all his various interests he has continued to give his personal attention to his bees and to get satisfactory crops of honey. As secretary of the Iowa Beekeepers' Association in its early years he had much to do with the success of that organization.

Mr. Snyder was 72 years of age at the time of his death.

## The Sterilization of Combs

Possibly there may be good reason for a beekeeper with thousands of extracting combs to try to save them by sterilizing, but for the small beekeeper, burning the combs and frames is cheapest. When the small beekeeper knows that the large honey producers are not taking adequate steps to eradicate American foulbrood, and that these producers send into his vicinity honey which may carry disease to his bees, he finds it a discouraging thing.

Sooner or later a method will be devised whereby the germs of American foulbrood can be found in honey. When this occurs the honey importing states will require certification of all incoming honey so their expenditure of money for American foulbrood eradication may not be spent in vain.

The only safe course for the New Jersey beekeeper is to use eternal vigilance in examining the brood chamber for the first appearance of disease; to buy no honey without the assurance that it is produced in a disease-free apiary; to buy no bees on combs until they have been inspected by a competent person; to add nothing to a colony or take nothing from it until examination shows it to be free of disease, and to keep the bee inspection department advised of any bees that come into his neighborhood.

E. G. Carr,  
In "New Jersey Bee Culture."

## Queens That Faint

A correspondent of the *Schweizerische Bienenzeitung* (August, 1931) was, in 1930, marking queens by attaching a small disc of metal foil to the thorax with shellac, when a rather excitable queen, after being released from under the gauze used to hold her quiet while being marked, was found to be apparently dead. She lay perfectly motionless; not even a leg or the sting twitched. After three minutes she began to "come to," and at the end of twenty minutes she could be returned to her colony, which she has kept in a state of efficiency during 1931, so was plainly none the worse for her fainting fit. Such cases are, it appears, rare; the writer had only seen a queen faint once before. But, as he says (and particularly if it is one's most valuable queen that is affected), the experience can be almost as bad a shock to the inexperienced beekeeper as to the queen herself.

A. D. B.

## Honey Appreciation

The "Revista Stiintelor Veterinare" of Bucharest, Roumania, in its May-June number, publishes very interesting articles on milk and its value. It also publishes a detailed statement regarding honey and its food value.

It shows, by analysis, that honey has a greater food value than most human food—greater than either meat, milk, eggs, etc. It recommends highly the use of honey in child nourishment. It is a very interesting magazine.

## We Wish All Were Like This

A letter from James E. Starkey, secretary of the Indiana State Beekeepers' Association, asks for copies of the *American Bee Journal* containing the article on comb honey by E. S. Miller, of Valparaiso, in the April number. He says: "I consider this article alone worth many times the price of the subscription. Every northern Indiana beekeeper ought to read the article again and again until he knows it by heart."

It takes a long time and much effort to get things of value. Whatever Mr. Miller writes is always the best.

## Another Beehive Entrance

By A. P. Molitor  
Minnesota

I came across a very practical entrance at the Crary apiary, St. Paul, which I believe will be of interest to beekeepers and of especial value in queen-rearing. Mr. Crary has made several middle entrances in his efforts to find one which is satisfactory. This one I describe, I understand, Mr. Crary has patented.

It is a combination entrance and is placed at the top of the brood chamber, serving as a middle entrance during the honeyflow and a top entrance during winter. It provides passageways for the bees to enter either the honey supers or the brood chamber without interfering with either. It eliminates the pushing and crowding that exists when all the bees must enter at the bottom. The space between the brood chamber and honey super is taken up by the feeder, so that no burr-comb is built.

The feeding feature is shown in the picture. The quantity of syrup

## Cleaning Partly Filled Sections

The simplest way of getting honey cleaned out of partly filled comb honey supers, in order to be able to take the supers home and use the sections for baits next season, is to put an escape board, with the hole open, over a colony. On top of the escape board put two empty supers, and above these place the supers with partly filled combs—as many as six or eight on one hive. Because of the distance from the brood nest, the bees seem to regard the honey as treasure trove and go up into the supers and carry it down, without excitement, danger of robbing, or tearing the combs. This plan worked last season "in this locality." Maybe it will work next year.

S. F. Haxton, Pennsylvania.



given at one time is unlimited, as any size container for the feed may be used. The feeder is placed at the top of the brood chamber, keeps the syrup warm, and the bees take it rapidly. It is easy to use in dry spells or rainy weather.







## A Silver Lining in the Basket

There seems to be a silver lining in the beekeeping basket right now. Beekeepers in the sweet clover region are well satisfied with their crop and those in the white clover region have a fair crop in many places. All report that clover has spread and recovered remarkably from the dry weather of the past two years and there should be a larger crop in 1933 provided winter conditions are favorable.

The only thing to be concerned about is the condition of the bees. When the basket has a silver lining, make sure there is something with which to fill it. Good colonies with abundant workers for the harvest must be provided for this honeyflow which is promised.

It is a good time to remember Doolittle's maxim, "The queen is the soul of the colony." Queens were never cheaper. Southern breeders never keener to produce good queens. Now is the time to see to it that the best queens you can obtain are at the head of your colonies before winter is at hand. Remember the best of colonies can do little without the support of a vigorous laying queen. Cull out the boarders this fall and be ready with the basket next year.

The experienced beekeeper already knows when is the best time to requeen. For the new beekeeper, always remember that a failing queen should be replaced immediately. General requeening of an apiary usually is done about the time of the close of the major honeyflow, but surely early enough in late summer so that the queens may become established and the colony filled with young bees from her eggs before the fall or dearth season comes.

Do your requeening soon.

## Spacing the Combs

Most manufacturers make the hives with the frames spaced  $1\frac{1}{4}$  inches from center to center. We believe this too scanty a space. It is true that, in nature, the bees usually space their brood combs at that distance, and sometimes a little less. But we have found that, usually, there is less crowding in the hive, and consequently less swarming, when the combs are placed  $1\frac{1}{2}$  inches from center to center—that is, when they are given 15 inches for ten combs.

We find also that when a super is given for the production of extracted honey there will be more honey placed in the super and the queen will be less apt to go and lay eggs in it if the combs are placed as far as  $1\frac{1}{4}$  inches apart. It is not usually desirable to place them so far at first, when they contain only comb foundation, as the bees may build small supernumerary combs at first. But when the combs are all built out the beekeeper will find it more satisfactory to have his combs placed as far as  $1\frac{1}{4}$  inches, and sometimes nearly 2 inches apart, from center to center.

## Sweet Clover

It is interesting to read our old bee magazines and see how much was done in the way of recommending sweet clover. This clover has no longer any need of recommendation. Everybody knows that it is a splendid pasture plant, a good soil enricher, and an excellent crop to prevent the washing of the soil.

If you wish your sweet clover to come without too much delay, sow the seed as soon as you have harvested it. In this way its outer shell will not get hard and it will be likely to germinate early. Put it wherever you have a corner of land idle. Do not be afraid of its spreading and becoming a noxious weed, for it must have two seasons in which to grow and is therefore not to be feared where not wanted.

## Fair Exhibits

There is no better way to advertise your honey and sell it than by exhibiting bees and honey at the fairs. The only objection is the labor, for if we wish to do the thing right we should have someone who is well posted stay by the exhibit during the entire fair. An excellent method also is to have an extractor and use it. We did this ourselves one summer at the Illinois State Fair and we had a crowd around the honey extractor during the entire time that it was in use. We placed some high benches around the extractor, just far enough to give us room to act, and the people would stand upon those benches and watch. There is no end to the questions asked and there is more correct information scattered among the visitors than you could supply in a week of talk if you did not have the implements to display.

It is also well to display some granulated honey in jars and to explain that all honey granulates at some time or other during cold weather, and that it is just as good, if not better, in that shape. I remember hearing an old lady saying, "I bought some of that extracted honey and it all turned to sugar and I had to throw it away." Such errors are quite common and do more harm to the sale of honey than all prejudices against its healthfulness.

## Breeding from the Best

If you are a careful beekeeper and wish to always breed from the best, this is the proper time to take note of what colonies have proved the best during the present season, so that you may breed from them, without error, next summer. If you winter your colonies in the cellar and have the hives marked on their cap or cover, you will find it profitable to use our method of placing colonies in the cellar, marking them and leaving the cap or cover on the stand of each colony, which is thus easily returned to its proper spot when taken out of the cellar. We made sure that, in this way, we could return each hive to its own spot, thus avoiding confusion, for there is very positive evidence to us that bees, some of them at least, remember the spot they occupied in the fall, after three months of confinement, and very often return to that spot.

## Use Your Own Brand

Many beekeepers are building a trade for their honey locally by selling under their own label. Every package bears the beekeeper's name and the customer comes to look for the particular brand. In such cases strangers coming in with honey at cut prices are unable to take any substantial part of the trade. A special trade is built up slowly, but the goodwill thus established is very valuable. Some commercial enterprises have been sold at a large premium because of the goodwill attached to the trade name or brand under which the goods have been sold. The beekeeper who uses his own label is building a reputation for his product which will serve him well in seasons of slow demand and low prices.

## Honey Prices

The exact condition of the honey crop through the U. S. is not yet fully known for this summer. But it is already known that the fruit crop is much less than usual. This is bound to work to the advantage of honey, for when there is little fruit there are but few preserves, so the housewife is more likely to fall back on honey for her desserts. However, we should not rely on this to sell our honey. Advertise it as much as possible, especially by exhibiting at the fairs.

## Loss of Queens

There has been an unusual amount of complaint of superseding of queens in package bees this season. When everything goes right a package of live bees may build up rapidly and store as much honey as an overwintered colony. With no brood with which to start, there is little hope of profit when the queen fails at a critical time. The very low prices at which queens and bees are selling make it necessary for the shipper to reduce his expenses at every possible point. The number of complaints indicate that some shippers may have neglected some essential part of their work in the attempt to reduce cost of operation.

It is highly important that some investigation be made of the causes of loss in the package business. As long as the buyer gets good returns there is every reason to believe that the demand for package bees will continue. With a large percent of failing queens and consequent loss, the buyer will soon lose interest in this source of bees. When one third to one half the queens fail early in the season, as has been reported in some cases, the loss to the buyer is serious.

One beekeeper writes to suggest that many queens are worthless because of the handling of the larvae when grafting. While it is true that carelessness does result in injury to many queens at this stage, we feel that careful queen breeders get as good results with the grafting system as by any other means. We are inclined to believe however, that too much haste or carelessness at some stage of the work is responsible for the large number of complaints of failing queens. It is quite probable that chilling of a queen at some stage of her development is responsible for her failure.

## Popular Articles

It is evident that the average reader prefers to read articles from the everyday beekeeper than from the so-called authorities or experts. The reason is that the novice goes into detail and tells exactly what he did and why he did it, while the "authority" often takes too much for granted or is too technical in his treatment.

The beekeeper who lives from his bees, who blunders along with the problems of meeting the vicissitudes that arise in his daily business and sells enough honey to pay his bills has something very definite to tell if only he will take the time to do so. The editors like very much to hear from readers about the things which they are doing. No matter how short the account, it is likely to be useful to others with the same job on hand. We do not want to neglect the scientist but it is the fellow with propolis on his fingers who is most likely to think of the right way to meet the pressing problems of apiary management.

## Late Increase

If we have made some nuclei early to rear queens, these may be strengthened to full size during the months of August and September by adding combs of brood and young bees from time to time and, in cases of shortage, some combs of honey. If this is done judiciously we may secure very strong colonies for winter from nuclei made in June. This is the cheapest way of making increase safely.

## Minor Nectar Sources

It is the off season which demonstrates the value of the minor sources of nectar. In a good season the bees pay but scant attention to them during the time of the main flow and at such times they count but little in the amount of honey harvested. When the main source fails, the beekeeper is fortunate who lives where a large variety of the minor sources are available. We have had reports of surplus in small quantity harvested from such plants as motherwort when no other source of honey was available for the time. In choosing a location the beekeeper will do well to consider carefully the number and variety of the minor sources within reach.

## The Facts About *Bacillus Larvae* and *Bacillus Alvei*

As we stated in our last number that the Americans were **not** mistaken in giving *Bacillus larvae* as the sole cause of what is known as American foulbrood, the deadly foulbrood and the most difficult to eradicate, one of our friends asked us whether we could prove that this is really the germ that causes this disease. We now come with the evidence taken from different leading writers.

In bulletins of the U. S. Department of Agriculture, numbers 809 and 810, Dr. G. F. White describes the two diseases, American foulbrood, caused by *Bacillus larvae*, and European foulbrood, caused by *Bacillus pluton*. Dr. White states on page three of his bulletin 810 that "while *Bacillus alvei* is not the cause of any bee disease, it occurs very frequently with European foulbrood, and is found only seldom in the rosy disease."

It may be necessary to state here that the names "American" and "European" have no relation whatever to the origin of the diseases, but were given because the first named was discovered and described in America, while the second was first described in Europe. But the two diseases are nevertheless very different in their virulence and in the modes of cure to be employed.

The international beekeeper, known all over the world, Ph. J. Baldensperger, of Nice, in his "Maladies des Abeilles," describes both of these diseases, the American foulbrood, which he calls "loque gluante" (sticky foulbrood) "causee par le *Bacillus larvae*." The other disease, European foulbrood, which he calls "loque puante" (stinking foulbrood), he describes as caused by the *Bacillus pluton*.

*Bacillus alvei*, discovered by Cheyne and Cheshire, is only a bacillus of putrefaction and helps to give the European foulbrood the stinking odor which is sometimes found with it and which caused Baldensperger to call this disease "loque puante."

Here is another authority on diseases of bees, Mr. Angelloz-Nicoud, of St. Didier-Sous-Riverie, whose treatise on the diseases of bees was published by the Librairie Agricole de Paris. He mentions European foulbrood as caused by "*Bacillus pluton*," and American foulbrood by "*Bacillus larvae*."

But these are not British writers and our British friends may want some authorities from their own British force. Then, here is a work just published in England, the author of which says he is writing for English-speaking people. I quote:

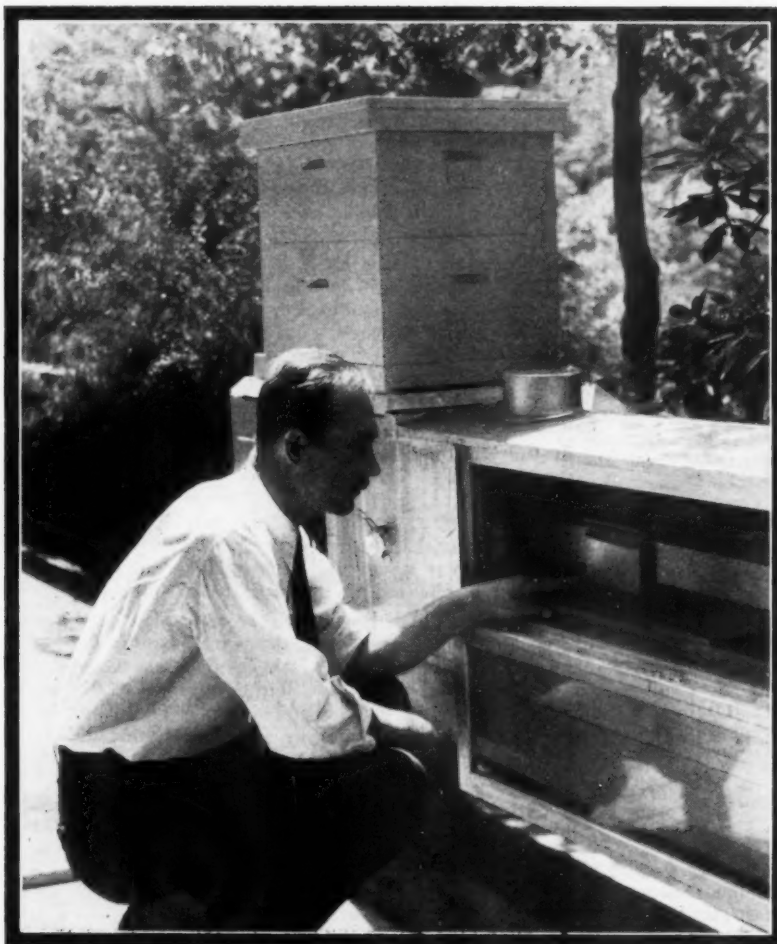
Paragraph 1690. American foulbrood has a characteristic disagreeable smell rather like glue. There is generally no smell with the other diseases, but sometimes there is a putrid smell of decay with European foulbrood, in the presence of putrefactive organisms, such as *bacillus alvei*, and a sour smell in other cases.

1695. American foulbrood is generally attributed to *bacillus larvae*, and European foulbrood to *bacillus pluton*. . . .

1696. The spores of American foulbrood can be destroyed in time by boiling. If suspended in honey, the honey should be boiled for at least an hour. The spores will actually withstand boiling for shorter periods. Honey taken freshly from a diseased stock should be diluted and boiled for three-quarters of an hour. Scientific tests show that there is but little help to be expected from the use for brood diseases of drugs and disinfectants whether given to the bees or placed in the hives. The vapor of naphthalene, carbolic, and eucalyptus may have some effect upon molds and probably stimulate the bees to ventilate more energetically and to house cleaning generally, but it is questionable whether the return justifies the attention and whether the attention might not be better directed to direct attack on the disease and to the use of vigorous stock, especially young queens, and the selection of good house cleaners.—E. B. Wedmore, *Manual of Beekeeping*.

These evidences appear to us to be sufficient.

C. P. Dadant.



Uncle Sam, through J. I. Hambleton, keeps tab on honey making operations by losses and gains in the weight of test hives mounted on delicate scales.

## How Uncle Sam Ferrets Out New Facts

By George H. Dacy  
Maryland

**W**E know little about the steady, progressive work being done in the Bee Culture Laboratory at Washington. Perhaps these notes, which I picked up on a recent visit there, will be of interest.

Because Uncle Sam wishes to give us honeybees which will live longer, fly farther and work harder, the experts under Mr. Hambleton are testing out all kinds of things. For instance, they are trying artificial sunlight treatments—the same substitute sunshine which has wrought near miracles in activating food with vitamin D and in increasing man's resistance against disease.

Research by the American Museum of Natural History shows that certain flowers reflect ultra-violet rays, thus adding another puzzle to the riddles of the bee. Does this ultra-violet reflection guide the bees to the blossoms from which it emanates?

Do bees see flowers as we do or in an entirely different way? What are the effects of the different wave lengths of light on the honeybee? What effect do they have on the eye?

Dr. L. M. Bertholf has carried on a series of unique tests for several years in getting answers to these conundrums. By the use of a curious bee cage equipped with spectral light of varying wave length, Dr. Bertholf has shown that the green-yellow which appears brightest to the human eye is also the most stimulating to the honeybee. The queenbees are negative to light, while the worker bees during the first three weeks show a similar reaction. Later they are positive to light.

Workers were liberated, one at a time, in the test light cage set up in a dark room such as the photographer uses in developing negatives and printing pictures. Special screens

*This article, from the pen of a man who is not a bee-keeper, shows somewhat of the interest that people have in the beekeeping research of our friends in Washington. We should view their results with great interest.*

were mounted at the opposite ends of this cage. With the spectroscope Dr. Bertholf threw light of different wave lengths on these screens in alternation. Each bee indulged in a back and forth parade, walking in the direction of the length of light which seemed to attract her most, and of all the light of the spectrum the honeybees awarded their popularity vote to green, with blue a fair second. They cannot see red light nearly as well as we can.

Later, Dr. Bertholf rearranged his light study apparatus in the dark room so that a quartz mercury vapor lamp, shielded in a special case, could be used as a source of ultra-violet light for direct comparison with the different wave lengths of the visible spectrum in its effects in stimulating honeybees. These experiments proved that for the same energy, ultra-violet is much more stimulating to bees than any color of the visible spectrum—indeed, it seems to be four to five times as stimulating.

Although sunlight contains only between 4 and 5 per cent of ultra-violet, those short wave lengths which are so stimulating to bees and which are reflected by certain flowers are enough to make those flowers appear much more conspicuous, perhaps, to the bee than to us. This heightened visibility, due to reflection of the ultra-violet in sunshine, may help to explain the high efficiency of the bee as a nectar scout. The colors in the flowers which attract the bee are not necessarily the same as those which we see. What the honeybee sees is due to the extraordinary stimulation of ultra-violet on its eyes.

Dr. Bertholf has found that irradiating comb containing young brood or larvæ is injurious instead of beneficial as we might suppose. The natural assumption that artificial sunlight which helps children will also hasten the growth and development of baby bees is wrong. Direct irradiation of the larvæ in the frame for such brief intervals as five seconds sometimes killed the young bees.

Several test cages of bees from three to ten days old were irradiated for periods of from ten seconds up



to thirty minutes on successive days. Invariably the treated bees died sooner than check groups which were not irradiated. Uncle Sam's research shows that if any benefit comes from irradiation it is from very short exposure only. Even where the reputed health-giving and stimulating wave lengths were filtered by passage through glass filters the results were unsatisfactory as measured by profitable beekeeping practices.

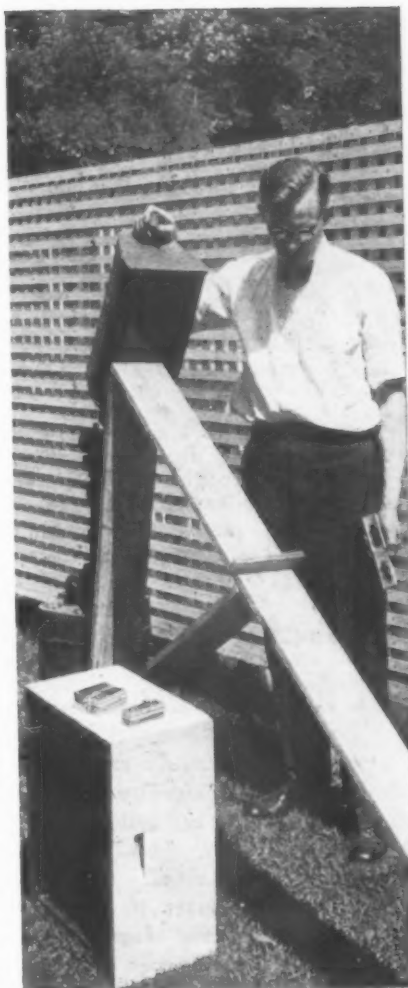
Irradiated queenbees are now sold commercially both here and abroad. The exposure to artificial ultra-violet is supposed to increase the egg-laying capacity of the queen. Our federal research has not corroborated these claims thus far. Untreated queens may lay equal to their weight in eggs daily, while the irradiated queens, according to Dr. Bertholf's data thus far, do no better.

Uncle Sam says that the workers kill off an irradiated queen and rear a new one to replace her (a process known as supersedure) more often than they replace a non-irradiated one. Apparently there is no effect, if any, on either the disposition of the queen or her bees. It is very questionable whether the treated queens produce more eggs. Dr. Bertholf is now keeping tab on the egg production and hopes to have more definite data later. He also hopes to investigate the effect of ultra-violet on the internal organs of the queen.

Scientific indications are, however, that natural ultra-violet and sunshine, reflected by certain flowers, guide the nectar hunters. Tests in the intermountain states, where bees are located sometimes as far as ten miles from the permanent residence of the scouting bees, show that when the hunters discover these flowers they emit distinctive scents as identification for any of their mates which are also afield and in quest of nectar, an expedient like that of the wandering tramp who etches a sign on the gate post where he is given food.

Uncle Sam also had to install a scale big enough for weighing truck horses when he inaugurated research to determine the daily production of honey and moisture and flight losses of an experimental colony. The colony of bees which is being studied is so mounted on the recording scale that its recording pens chart all the losses and gains. It is set up on the front porch of the Bee Culture Laboratory.

With the use of this device, new facts have been found out about young and old bees. For example, the worker bee makes from ten to twenty hunting flights daily. They first leave at dawn and continue their travels until dark during favorable weather. A supplementary detector shows that the average bee consumes between fifty and sixty minutes in a single round trip flight after nectar, usually



Artificial sunlight baths for bees resulted in the treated insects not living as long as their untreated mates.



This "synthetic flower" consists of a glass tube of syrup used as a magnet to attract bees so their habits may be studied in detail.

transporting a load equal to from one-fourth to one-third her weight.

Individual bees have been found which, under the stress of emergency, have flown while carrying a weight equal to their body. The bees that are designated to carry water to the hive make more frequent trips than those that carry nectar.

The nectar undergoes a loss of moisture of from 30 to 80 per cent the first few nights it is stored in the hive. During two rounds of the clock under favorable circumstances this test colony of bees has produced from eighteen to twenty pounds of honey. I suppose it is the only colony in existence whose every activity is weighed and charted as soon as it occurs.

The colony shows measurable loss in weight each morning when the worker bees depart after nectar and water. Late in the afternoon the weight increases because of their return. When rain or wind storms threaten, the bees at once flock back and register a big jump in weight. The amount of honey produced can be determined by the difference between the weight of the colony at dark on two successive days.

As you know, Uncle Sam operates an educational motion picture laboratory. Recently certain bees have been undergoing coaching for roles in one of the Government "movies." This training has consisted in providing the bees with laboratory nectar in so-called glass "feeders." The bees form the habit of remaining close to the feeders during the bright summer days, which are ideal for taking pictures. This training which schools the bees as actors also allows the scientists to paint the different bees with white or yellow dyes for identification. Of course, these movies are not talkies, although the bee has a voice, as is proved by the piping of the queen. The bee voice is actuated by spiracles—the insect lungs.

As research probes ever more intimately into the secrets of the life and actions of the bee, new and interesting facts are also disclosed about the uses of honey. When "Trudie" Ederle, the first woman to swim the English Channel, established that record honey was the quick energy food which revived her strength. This honey in capsules was consumed regularly during the "natatorial marathon." Other long distance swimmers also use honey regularly in their training rations.

Several ounces of honey fed in water just before the race aided certain American "bangtails" to win leading races during the last year. Honey as a "strength" food then for college football players, oarsmen and track champions has recently gained prominence.

One Australian athlete suffering from a serious stomach ailment was  
(Continued on page 335)



## Take the Honey —Leave the Money

By Florence L. Clark

**I**F there happens to be any modern cynic like Diogenes of old wandering around with a lantern looking for an honest man, it is suggested that he go to Cassville, Wisconsin, and park his lantern in front of Mathilde Candler's place of business.

Miss Candler has been in the honey business in Cassville for thirty-five years, keeping bees in seven pastures in the Mississippi River hill country about Cassville. She ships considerable quantities annually—as high as a carload in a single consignment on occasion.

Though her business primarily is wholesale, Miss Candler runs a small retail honey store in Cassville. Two years ago, because it was necessary for her to be away so much in the summer time looking after her apiaries, she became convinced it wasn't practical to keep the store open all the time. As an alternative she decided to experiment with a "help yourself" honey stand on the sidewalk outside of her store door, where patrons could obtain honey in her absence.

The stand is made with shelves below and a glass cabinet above a little table. In the table is a coin slot opening into a small drawer. Over the stand, which is kept filled with comb honey and jars of extracted sweets, is a small sign, "Take the Honey, Leave the Money." Each comb and jar is labeled with a price tag.

He who runs may read what is expected at the honey stand. If you want some honey, help yourself and drop money in to pay for it per price labeled on the comb or jar.

A beautiful expression of trust in humanity, you say, is Miss Candler's stand. But how does it work out?

"Perfectly," declares Miss Candler. "People are much more honest than you give them credit for. I have sold lots of honey at the stand to local people and to strangers who motor through Cassville. I have not lost a penny in the two years. Every bit of honey that has been taken away from the stand has been paid for."

The picture shows Mrs. George L. Trout, Chicago, dropping in a quarter

to pay for a jar of honey. She had been attracted by the novel stand in motoring through Cassville, and stopped to help herself.

"I am afraid such a stand wouldn't pay very well in Chicago," said Mrs. Trout.

## Can You Meet These Objections?

By M. N. Dillon  
Michigan

Strange to say, many beekeepers cannot answer intelligently the simple questions that are put to them over and over again when they offer honey for sale at retail. The beekeeper who can meet intelligently the "sales resistance" expressed in the following objective can sell more honey than he can produce.

How do I know honey is not adulterated? Sometimes, do you feed your bees sugar? Honey is too sticky and messy, especially for children. Honey makes me sick. In cooking with honey, should I substitute the same volume of honey for the sugar? Can a diabetic eat honey? We have some friends who have bees, so we never buy honey; all we ever have is given to us. Honey is too expensive.

We have never been able to produce as much honey as we could sell. So for several years we have taken seriously the injunction of the bee journals to "buy to keep your customers supplied the year round." So far this year, in addition to our own crop, we have bought (in small lots averaging about one ton) nearly forty tons of honey. When I reflect on the quality and appearance of the honey offered for sale by small beekeepers, I wonder that there is any demand for honey left. Such merchandising would kill the market for most any other food product. Witness sediment, dead bees, wax, unripe honey; rusty, battered, unsightly

cans (sometimes old lard cans), and dirty, dilapidated old cases.

There is another story, of downright dishonesty, which every honey buyer soon learns. Dishonesty is not common, but poor honey badly packed is all too common.

It is a pretty safe bet that the man who has no pride in his containers will have no pride in the quality of his honey. A buyer with years of grief in buying honey said the other day: "The man who persists in selling honey in any but new, bright tin ought to be shot at sunrise." That may be pretty drastic, but at least he ought to read that story in the Good Book about putting new wine in old bottles.

The honey business is about where the butter industry was a generation ago—most of it produced on a small scale by unskilled labor, and sold, good, bad and indifferent, at the same price. Buyers cannot buy with confidence and consumers consume with regret. Large scale production solved the butter business, and commercial beekeeping will make the honey industry.

## The Singing of the Queen

Our readers know that when a young queen is angry because the bees do not allow her to destroy the other queens in queen-cells, she emits a "peep, peep," to indicate her anger, to which the imprisoned queens, enclosed in their cells, reply by a "kooa, kooa," the difference in sound being caused evidently by their confinement within the cell.

Mr. H. Clesse, in the "Apiculture Belge" of June last, reports that he had the curiosity to listen against the hive wall to ascertain the number of such angry sounds emitted by a queen. He counted ninety-seven repetitions of the same "kooa, kooa," by a queen within a short time.

## Will Rogers Home to Get His "Dough"

Will Rogers, who wise-cracks his way around the world, according to an Associated Press item, arrived from Europe "to get in on the dough everybody's going to dig out of their socks."

He flew with a Chinest pilot and he reports the events in the far-eastern situation, finishing with this observation: "The most interesting guy I met on the trip, during which I flew twelve days steady from near Singapore to London, was a fellow taking five hundred cases of bees to China. I'd like to hear from that fellow. I'm going back home to Hollywood to make some pictures. Am I goin' to write a short history of China? Yes, very short."

# Introducing Honey to Iowa 4-H Club Girls

By Lulu Tregoning  
Nutrition Specialist and 4-H State  
Club Agent  
Iowa

IT has been my privilege to do the nutrition project with 4-H girls in Iowa, and often as we develop a phase of home economics we become so interested in that one particular field that we are not aware of even the products that are available for various dishes. So it was not until this year that we were influenced to use honey in baked products through the interest of Mr. F. B. Paddock, our own Iowa apiarist.

I believe you will be interested first in knowing how we develop our 4-H program. The girls in each group have an adult leader; these girls range in ages from 12 to 21 years. Each club program consists of a business meeting, music appreciation, health numbers and demonstrations, and one home economics project. The home economics projects form a six-year cycle, namely; two years of clothing, two years of home furnishing and two years of foods and nutrition. The foods course consists of one year of canning and one year of bread. The bread project really should be entitled "The uses of whole cereals and the food value of cereals in the diet."

Perhaps next you will be interested in how Mr. Paddock and myself developed the material on honey for the bread project. First, we felt it quite necessary to overcome the prejudice against the bee itself. So a pamphlet entitled "The Romance of Honey" was written by Mr. Paddock. This pamphlet was mimeographed and copies given to each club girl and leader. This pamphlet told something about the life and work of the bee, and kinds of honey produced. You've no idea of how the girls enjoyed this material and gained an entirely different viewpoint. They used it for talks in their various club meetings before they began any baking using honey.

Fourteen counties with an enrollment of 1800 girls and 200 leaders studied this material. The counties were Carroll, Crawford, Calhoun, Sioux, Polk, Mahaska, Warren, Adams, Mills, Black Hawk, Jones, Allamakee, Dubuque, and Grundy.

The girls study the following:

- a. Production of honey in their own communities.
- b. Sources of honey (flavor) in their own communities.
- c. Forms of honey sold on market.
- d. Comparison of cost of honey in different forms.

e. Use of honey in cookery.—

The third development was our fine contact with Miss Malitta Fischer, of the American Honey Institute, who furnished us with such splendid material and recipes.

The honey nut bread was particularly popular and fourteen teams demonstrated its making and baking at their county achievement days, where it is estimated they reached at least 1500 people. They also used some of the recipes for cookies and desserts.

Our plan for the coming year is to expand the use of honey in other phases of cookery and to learn even more about the product itself as well as the distribution.

During our study this year, we were greatly impressed by the large amount of honey produced in Iowa. The girls and leaders are certainly sold on the flavor of the product in baked products. I'm sure I can voice the opinion of Iowa 4-H girls in saying we would like to have served you honey nut bread sandwiches today if our project were being carried on at this time of the year.

We shall be glad to have any suggestions that you in this association have to offer us.

## Salt for the Control of Fire Blight

Several orchardists have asked us what we could tell them about the effectiveness of the use of salt in the control of pear blight. This question follows the publication earlier of the information on pear blight from Dr. Rosen, of Arkansas, and Prof. Day, of California. We submitted the question about the salt to Prof. Day and also to Prof. Anderson of the University of Illinois. Their replies follow:

"Salt has been mentioned a number of times as a cure for pear blight. Some claim to have gotten results from spraying with salt, others by applying it to the soil. I am skeptical of its usefulness. It is possible that large applications to the soil may so decrease the vigor of the tree that blight will not readily spread. In California we have many orchards which have been irrigated with waters containing salt, and blight has been bad in those orchards at times.



Miss Lulu Tregoning, a leader of 4-H Club girls in foods and nutrition.

"Blight has a peculiar way of disappearing rather suddenly from season to season and has led many to believe that some particular operation which may have been used in the orchard was the cause of the disappearance. At the experiment station here, we experimented with zinc chloride for six years before advising anybody to make a trial of it. It is necessary to be very careful in advice of this kind. Many blight remedies have appeared, the originators being sincere in their claims for it, but further trial over a number of years has proven them to be of no use."

Leonard H. Day,  
Assistant Pomologist,  
University of California.

"In reply to Mr. Vikla's question in regard to the use of salt for pear blight, I would say that I do not have any faith in it. There might be a possibility that checking the rank growth of the tree would be of some help, although it would by no means make the tree immune to fire blight, and I am reasonably certain that it would have no effect on blossom blight.

"Since fire blight first appeared in this country and even years before the true cause was known, there have been thousands of suggested remedies. When these have been tried with proper control, none of them have proved of any real value. Of course, we would be very glad to see any method tried under properly controlled conditions."

H. W. Anderson,  
Prof. of Pomological Pathology,  
University of Illinois.



# Queen Introduction

By Alfred H. Pering  
Florida

It is the consensus of opinion among almost all beekeepers who have had experience in introducing queens that the colony should not be disturbed for several days after the new queen is first given to the queenless bees. This fact is especially true if the bees are of a vicious nature. If there be no honeyflow or the honeyflow is very light, it is very risky to disturb the colony until after the new queen becomes well established.

In introducing queens, very good authorities recommend placing the cage containing the new queen between two brood frames or upon the tops of the brood frames in such position, with the wire side down, that the queenless bees soon get acquainted with their new queen and remove the candy to release her. Directions about like that are usually printed on the reverse side of the card used to cover the wire portion of a shipping cage, and this card is also used as the address side for shippers and purchaser. These are very good directions. One difficulty, however, always manifested itself in my experience. In a number of cases, when the cage was placed between brood frames, the frames were difficult to get far enough apart to allow the cage to be placed as wanted, especially so where self-spacing frames were being used. If a frame was removed in order to afford the necessary space for the cage, one must find some way to care for that particular frame until the time came when it could be returned to its proper place. This feature was not quite so annoying to me, personally, as was the frequent construction of great burr-combs. Numerous bridges were frequently constructed from comb to comb, just below where the cage was hung. In removing these burrs and bridges, one would damage the otherwise nice, smooth surfaces of the brood combs. This seemed to me needless waste and damage. Sometimes new thin combs parallel to the brood combs were built during the five or six days required for sure introduction. These had to be removed and were of no value except for wax.

I soon abandoned this method and began to hunt for a better plan. The cages in which most queens have been shipped to me are so thick that when they are placed on top of the brood frames there isn't space enough to properly replace the queen excluder, if one is used, and if supers are in use there isn't space for both the cage and the bottom bars of the super frames.

Sometimes, by using great care, one can find a space between top



Fig. 1

bars of brood frames just right, over which to place the cage and then carefully replace the super frames so the bottom bars of the super frames will lie snugly alongside the cage. I have succeeded in this way a few times, but they are not found often enough; besides, the queen too often wants to occupy the super. That I cannot tolerate, so I resort to the use of the queen excluder.

If the cage is placed beneath the queen excluder on top of brood frames and a heavy enough super is placed next, the weight will close up the joints sufficiently bee-tight, but the queen excluder will be bent out of shape and one is liable to have the wires so bent that queens can pass through, with the attendant annoying results.

For some years I would reverse the excluder. This gave the necessary room for the cage. It also gave room for burr-combs.

The queen excluder being bottom side up, the wood slats of the excluder were then too close to the bottom bars of the super frames and they would soon be so glued fast that broken bottom bars resulted or nails at one end of the frame or of both ends would pull out, and when the super frame was forced up and out the bottom bar would remain secure to the top or reversed side of the queen excluder. Needless to elaborate upon this annoyance.



Fig. 2

Of late years, requeening in some manner has become a well nigh universal practice. I think it is good practice, too. The sooner the beekeeper rids himself of the undesirable queen and her progeny, the better for all concerned. To those who have a successful introducing method of their own and they like that method, I would say stick to that method until you think you have devised a better one or a better one has been found. To those who are not so well satisfied, I would suggest they try this plan, which I have been using lately and like well enough to continue its use until I, or someone else, find and report a better method.

It is a very simple plan. The illustrations speak for themselves. No. 1 shows a hole cut in the wires of a seven-wire queen excluder just the size to admit a three-hole queen cage.

The queen excluder is shown in place right side up on top of a brood chamber and the space between two brood frames is clearly shown over which the wire side of the queen shipping cage is to be placed. Illustration No. 2 shows the cage in place. The reader will note the slot cut in the back of the cage. This is to allow free passage of air and to hasten the "odorizing" of the new queen. I think the matter of the new queen acquiring the same odor of the colony to which she is introduced is of considerable importance. I have no way to prove my point on that and will not here try to do so. I agree with those who think it important to remove the attendant bees before introduction.

Illustrations No. 3 and No. 4 are almost identical as No. 1 and No. 2.



Fig. 3

In the Nos. 1 and 2, a seven-wire excluder was used and only the wires had to be cut in order to admit the cage. In No. 3 and No. 4 a three-wire excluder was used and a portion of the wood slats on each side of where the three wires were cut had to be removed to admit the cage. Illustrations No. 3 and 4 each show a piece of tin placed over the end of cage to insure that the queen escapes into the brood chamber. No. 4 shows cage after candy has been eaten out and the queen liberated.

Some of the advantages: **No burr-combs.** One doesn't have to be in any hurry at all about removing the cage. You don't have to make any examination at all if not desired.

In introducing gentle queens to vicious bees, one can even let the vicious colony severely alone until all the old bees are dead and gone. I have done this a number of times. Someone will ask "what now" if a failure to introduce? That is a very pertinent question. Do about as you would in any other failure. Most beekeepers of experience can make a pretty fair guess as to success or failure in introduction without opening the hive.

The hive can be left undisturbed indefinitely. No frame to replace. No space to be closed up or cage to remove. Queen excluders are continued in use by closing the hole cut for the cage by a piece of tin or one side of a broken comb honey section box, if handier. No time or material wasted in building burr-combs, bridges or thin sheets of comb in the space made while prying brood frames

apart to admit hanging the introducing cage between the brood frames. No opening the hive at the end of the fifth day to remove the



Fig. 4

cage, unless you just want to. An examination to ascertain if queen was accepted is not any more or less necessary than in any previous method that I have ever used. I like the method quite well enough to recommend a fair trial of it although the queen excluders have the appearance of having been considerably mutilated, but they are really as good for future use as before, if you just close the hole as indicated. And the excluder is again ready for use in queen introduction by removing the covering over the hole.

### Honey Heating Tests Outlined to Beekeepers

Fort Collins, Colo., June.—To aid honey producers in supplying the public demand for liquid honey, experiments showing that it is possible to liquefy honey from the crystallized state without injuring it, so that it will remain in a fluid condition for at least four months, have been conducted at the Colorado Agricultural College Experiment Station.

Contrary to the common belief that it is impossible to heat honey beyond 160 degrees Fahrenheit without burning it, the tests have shown that the length of time the honey is heated in liquefying it is just as important as the temperature to which it is heated.

Honey may be ruined by heating to a temperature of 130 degrees, if

it is held at this temperature long enough, it has been shown. In contrast, honey may be heated to 220 degrees and then cooled without danger of serious caramelization or burning.

These findings were revealed at the field meeting of the Colorado Honey Producers' Association at the college, by R. G. Richmond, deputy state entomologist, who has conducted the investigation at the college experiment station.

He has found that honey produced in Colorado by bees working on a mixture of alfalfa and sweet clover may be successfully liquefied from a crystallized state by heating it to a temperature of 140 degrees Fahrenheit and holding it there for twelve hours; by heating it at 150 degrees for three hours, at 160 degrees for two hours, or 170 degrees for one hour. Such honey has failed to recrystallize in four months, and indications are that it will remain in a fluid state for some time. This honey has shown no appreciable injury from the heating, it was explained.

Richmond plans to continue these experiments with standard honeys from other sections of the country to learn how they respond to heating for such periods of time. He expects to test honeys produced from the following sources: Buckwheat, white Dutch and alsike clovers, orange, sage and fireweed.

### Garibaldi a Beekeeper

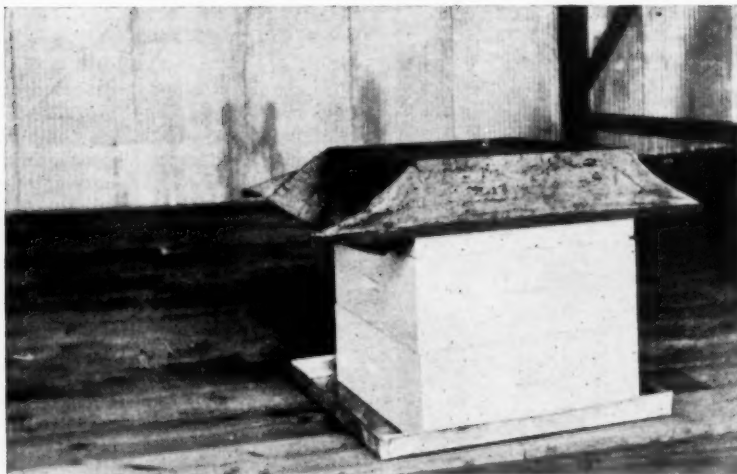
The entire world knows by reputation the name of Joseph (Giuseppe) Garibaldi, the Italian patriot who fought so valiantly for the freedom of his native country some seventy-odd years ago.

Garibaldi died fifty years ago, and it is at the occasion of this anniversary that the Italian bee magazine "L'Alveare" publishes, in its May number, the picture of this noted hero and a letter from Professor Zappi Recordati, including two letters from Garibaldi, showing that in 1873 he owned twenty-two colonies and desired to secure a pattern of movable-frame hives. In the second letter he complains of ants annoying his bees. It is quite interesting to picture the famous patriot as a farmer and a beekeeper.

### Do You Read or Write Hungarian?

One of our good subscribers, Mrs. John Tallas, Sesser, Illinois, desires to correspond with other Hungarian beekeepers in this country. If you can read Hungarian, we know that Mrs. Tallas would appreciate correspondence.

## A Precaution Against Robbing



When taking off supers full of honey at the close of a honeyflow, when the bees are apt to rob, a good way is to place the supers in a shallow metal pan such as that shown in the picture. This pan may be carried on the wheelbarrow, then a heavy canvas with slats tacked to either of two opposite edges serves to throw over the top. This may readily be seen in the picture also. We find a good way is to sprinkle

water containing some chlorine solution such as sodium hypochlorite on the cloth. The bees do not like the odor and it keeps them away fairly well. After the supers are in the honey house, it is easy to remove them, wash out the pan before returning to the apiary and put a little of the chlorine water in it. This will not hurt either the supers or the honey, but will in fact act as a sterilizing agent.

G. H. Cale.

## Queen Introduction Kinks

By Jes Dalton  
Louisiana

Queen introduction is an operation probably more affected by conditions than any other in beekeeping. Weather, atmospheric conditions, nectar secretion, race or character of bees, all play an important part in it, and so it is no wonder that the same operation will sometimes prove highly successful and other times prove to be an almost total failure.

Understanding this, I propose the following: If the purchaser of a queen will snip off a small bit of zinc excluder and replace the perforated tin on the queen cage with this tiny bit of excluder, it will allow the accompanying bees to come out and the bees of the hive in which the queen is introduced to go in and get acquainted with the queen, work around her and give her colony odor. The beekeeper then has a much larger chance for success in introduction than if he follows the general rule and simply kills the old queen and inserts the standard mailing cage in the hive. When this is done, no bees can get in to the queen and it lets all the attendant bees loose with the queen, thus literally provoking a fight which is likely to involve the queen before it is finished. If the zinc was fitted to all standard cages,

I believe it would be a great improvement.

Another simple point I have never seen mentioned is in checking the colony to see if the queen is introduced. When the colony is large or the bees are hybrids or blacks, it is extremely dangerous to open and disturb the colony. In putting in the new queen, lay her wire side up just under the cluster on the bottom board so that she will walk quietly up on the frames when liberated.

Attach a drone trap to the entrance of the hive. If the queen is killed, she is bound to be deposited in this drone trap and that is all the checking required. It is not a three-minute job to fit one to the hive entrance and it will save much work in checking and it will avoid the risk of losing the queen from the excitement caused when opening and handling the frames to find out if the queen is on the job.

## A New Outlet for Honey

By P. H. Tracy  
Dairy Department,  
University of Illinois

A new product, "Honey-Cream," is now available for honey lovers as a result of experimental studies in the Department of Dairy Husbandry, University of Illinois. "Honey-Cream" is a combination of 75 per cent cream and strained honey and is used as a

spread on bread, biscuits, waffles, etc. [It is not the same as the whipped honey which we have read about before.—Editor.]

Several different kinds of honey have been used, but the one found to meet the taste of the majority of customers is sweet clover. In general, the milder flavored honeys were the most popular.

The cream used should test about 75 per cent fat. This is obtained by heating the milk to about 140° F. for separation and reducing the rate of inflow to a third. Special tinware can be secured for some separators that will permit the heavy creams to start more rapidly so that the milk can be handled faster.

The honey should be heated to at least 120° F. and mixed while hot with warm cream. Paper packages are very satisfactory for the product. The packages should be filled with the Honey-cream when it is still warm. After being held at 40° F. for a few hours, the mixture thickens and is then ready to be served. Honey-Cream so made will contain about 42 per cent fat and has about the same qualities as butter.

It has met with the enthusiastic approval of all who have had a chance to sample it. It is expected that more complete details of the manufacture of this Honey-Cream will be available in a circular or bulletin soon. Inquiries should be addressed to P. H. Tracy, Dairy Manufacturing Building, University of Illinois, Urbana.

Beekeepers should attempt to interest their local dairy people in this product, especially trying to promote the use of local honey of the milder flavors.

## A Suggested Subject

I would like to suggest a subject for an article: Just what is an Italian bee? Is the color uniform? If not, what are the variations? Is there such a creature as an evenly marked three-banded Italian bee which will breed true to color year after year as long as no outside blood comes in?

I bought a \$10.00 breeder, and when I complained because her workers ranged all the way from one band to golden, he said there was no such thing as an evenly marked Italian bee. How, then, can one be sure of purity, since these variations in color can be and are produced by crossing? If even markings are not the test of purity, then what is the test of purity?

Harrison Moore, California.



## Cost and Returns in Producing Honey

It seems to me that it is high time in our business of honey production for someone to cry from the wilderness about things that have been put over by big buyers to get honey from the producer at 6 or 7 cents a pound and to the ultimate consumer at 20 to 30 cents. Secretary of Agriculture Hyde says that the way to remedy the situation is by a producers' organization. He believes that some day producers are actually going to get together and stay together.

I wonder how hungry and penniless we must become before we will be willing to copy our wonderful little servants—emulate the spirit of the hive—and cooperate in selling as the bees do in gathering honey?

Like other agricultural products, we are not faced so much with overproduction as with **under-consumption**. Better advertising and honey education for the public is needed. How much will it cost? Who is doing a better job at this than the American Honey Institute? Think it over and send your support to them.

Consumers have paid too much for honey. Table honey is essentially a spread and should sell a little below other spreads. Butter and mayonnaise sell for 30 to 20 cents. Can we not dispense with some of the middlemen and get a little more and have the consumer pay a little less? Then more honey will be used.

What determines honey prices? Supply and demand. Who creates the supply and demand? To my notion, the big buyers have, and they shouldn't. How mad must we beekeepers and consumers become to stop this? How are the beekeepers living? Most of those I know are either living from some other income or living like Poor Mountain whites. I claim many beekeepers are fooling themselves as to the cost of honey production. Remember, we have to produce 50,000 pounds and make 4 cents a pound above the cost of production to get \$2,000.00, which is no more than the income of a bank clerk or a good mechanic. And that is one hundred pounds per colony for five hundred colonies every year. If a beekeeper doesn't deserve that much, excuse me for speaking.

I have talked with beekeepers who get 6 to 8 cents a pound for their honey and are glad to get that much. They seem to think they are not entitled to more, yet I believe that not over a fourth of our American bees are making over \$5.00 a colony a year above the \$4.00 to \$7.00 carrying cost. With outyards, gasoline, trucks, depreciation, taxes, hive and working materials, disease losses, advertising, labor, etc., who can carry a colony on less than \$5.00 a year?

Is it possible to organize all the commercial beekeepers in this country and Canada so as to produce a bull market, and have we enough ability in our ranks actually to control the distribution of our honey and follow it through to the consumer?

I would like to see a national organization, under the control of local producers and their representatives, somewhat after the plan suggested by Prof. Anderson, of Louisiana.

Waldo Horton, President,  
Florida Beekeepers' Ass'n.

## Honey 3000 Years Old? —The Old Myth Exploded

There is no impossibility in honey three thousand years old and the honey being still good. But in the descriptions of the last discovery of Egyptian tombs it was stated that the said honey was still **liquid**. For this condition I found no explanation. So

I resolved to write to the discoverer himself. I objected to the honey being in a liquid state after such long a conservation and made some other remarks which I do not remember just now, and addressed my letter to Lord Carnavon, care of the Illustrated Times, I think it was, where I had read the topic about such honey.

In due time I received a very kind letter from Lord Carnavon, confessing the mistake there had been about some urns appearing to contain honey. "It was no honey at all, but simply castor oil," he said.

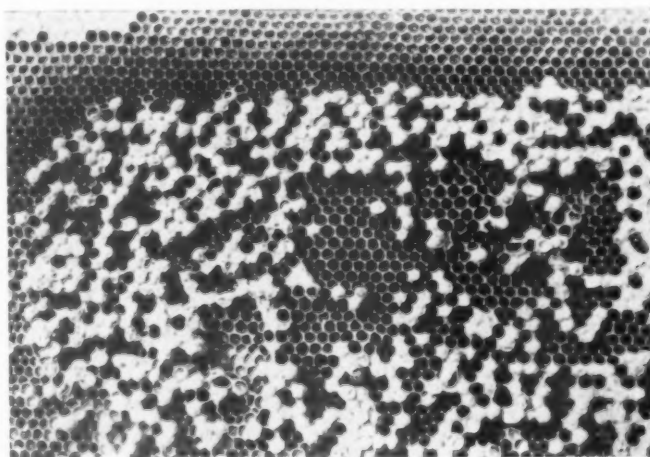
Lord Carnavon had already himself corrected that error in consecutive publications—I mean in later publications, especially in scientific reviews, Egyptian and other, whose titles and references I cannot remember.

As soon as I recover that autograph, I shall be pleased to send you a copy of its contents.

D. Amaro Van Emelen, O. S. B.

Brazil.

## Beginners Should Recognize This



This picture shows a part of a comb from a colony with a drone-laying queen. Notice how the worker-cells are used for rearing drones and that the brood is very uneven; the drone brood is first among worker brood. This sometimes comes on slowly, the amount of drone brood increasing as the fertility of the queen fails. Some time before, also, the queen lays in a hit or miss fashion, so that her brood becomes irregular, with empty cells between. Such irregularity, however, must not be confused with that caused by the use of cells for pollen or honey, which often happens in the height of the season, so that the smooth, even areas of brood become broken up.

Failing queens that are becoming drone layers or whose brood shows that they are undesirable should be replaced with the best queens you can get when the honeyflow is still

on and the bees will readily accept a new mother.

Sometimes when a queen fails utterly or a new virgin fails to mate, laying workers are produced, all of whose brood is drone brood, since they are not mated, but lay unfertilized eggs only. Such workers are hard to find. A good way to remedy this condition is to shake the bees from the combs into the grass some distance away from where the colony stands, then to put in the middle of the brood nest two combs of emerging brood from another colony, inserting a queen in a cage between them. The young bees now rapidly coming from these two combs will accept and release the queen, and the bees which return to the colony from the spot where they were shaken will leave behind the heavier laying workers who are thus unable to get back to their home.

G. H. Cale.

## Let Us Decide What Constitutes a Good Bee

By Lynn C. Reynolds  
Wisconsin

That subject, "Which Race of Bees?" has become particularly interesting because beekeepers as a whole seem not to have decided what constitutes a good bee.

My first taste of scientific beekeeping started with the introduction of three Italian queens from a well-known breeder into colonies that were or had been diseased with European foulbrood. So far as European was concerned, it seemed to be a backward step.

However, each of the three queens, as I have since noted, seemed to have individual peculiarities resembling other races of bees than the Italians, although they were undoubtedly purely mated Italians.

The first queen appeared slow and easy-going, built up a great swarm in a small hive, packed every corner with cream-colored brace combs, put up a surprising amount of honey in the small space afforded.

The second queen built up a colony and swarmed—built it up and swarmed and finally died from European foulbrood. The third colony was a black one with some yellow bands and a few peculiarities not common to blacks.

After this experience, for some time I continued trying different strains of bees—some very good, some bad—often from the same breeder. Many breeders stick to breeding a bee that will use up a good honeyflow in rearing brood, then starve, and almost starve the beekeeper.

One of the best colonies I ever had was a Maverick with a yellow band on about every tenth bee, with never more than six combs of brood at one time in all its life.

I have tried Carniolans and Caucasians. The Carniolans refuse to breed true to type in the female line. The Caucasians were powerful, great honey gatherers, but hard to handle here. The only gray bees I got that fulfilled the claims appeared after I had re-Italianized, and an Italian or hybrid queen apparently eloped with a Carniolan male. I did not discover the quality of this stock until absconding and cross mating had ruined the breeding value, but I have kept it to the fourth generation and still have a good showing of Carniolans and what constitutes my idea of a good bee.

The strain that has finally emerged from my drastically selective breeding has three bands, builds an enormous swarm on from nine to twelve standard frames, does not try hard to breed all over the comb, fills the surplus combs wide and solid, caps

them white, is quiet but not too docile, and of late years I have found that my combs uncap easier when cold than they formerly did. And any bee that tries to cover too much territory in preference to making wax is my idea of a scrub.

However, they will not fight European foulbrood, winter well or make good returns on the money invested even if they do make lots of honey; and they swarm unexpectedly. Better a queen that breeds intensively on a few combs and a swarm to match. I almost agree with Mr. Latham that any good bee will do her stuff in a ten-frame hive.

On the whole, I think the Italian bee may be bred to almost any characteristic, and I think filling the air with carefully bred Carniolan drones might hasten improvement in a few ways. After that, selective line breeding might bring us out near a perfect bee.

But first, please, let us decide what constitutes a good bee. Let's have all the characteristics listed, pick out the ones we want and go after them together.

## A Northern Beekeeper Gives the South the Once Over

By M. N. Dillon  
Michigan

We recently returned from a 3100-mile auto trip through twelve states, in which we saw the South from Florida to Arkansas. All we got was fun and first impressions. We will keep the fun for ourselves and share the impressions.

We rolled out of Michigan early in December, past brown fields and leafless trees, through Louisville, Kentucky, "The Gateway to the South." We stopped at the log cabin in which Lincoln was born and at the farmstead where "My Old Kentucky Home" was written. Miles and miles of cotton and tobacco fields and pine trees, tapped for turpentine, and then to Florida and the Gulf.

It seemed strange to find flowers and clover in bloom and a honeyflow on, see a swarm in the air near Christmas. Most beekeepers we talked with reported a bumper crop, but we saw very few "Honey for Sale" signs along the highways and very little honey displayed for sale by grocers, and often this was a northern pack. Several beekeepers said they had retailed their entire crop at a good price, but they manifested little interest in the suggestion that they buy honey to keep their trade supplied. The struggle for existence was in evidence among queen breeders and package shippers. The smaller and less efficient are quitting, while others are prospering and planning to extend their operations.

In an hour spent with Dr. Whitcomb, in charge of the U. S. Beekeeping Laboratory at the University of Louisiana, we learned a great deal about southern beekeeping. They are doing some very interesting work. I was surprised to find southern honeys lighter in color than I had expected, but was told it was due to an unusually favorable season.

The marvel to me is how, with so many small-scale beekeepers, often ignorant and with primitive equipment, the South was ever able to get bee diseases under control and keep them there. The inspection forces are not large, but they are skillful with fire.

The northern beekeeper is interested in the South mostly for its own sake—its climate, its history, its people. We had two children with us and we had school (geography and history) in the car each day. The confederacy lived again for us as we visited its battlefields, its capitols, its monuments and the homes of its heroes. Mobile and New Orleans are rich in Spanish and French history. The old French quarter, with its market and narrow street, its Cabildo, its Absinthe and Bonaparte houses, the cotton and banana docks, and a hundred other places invited us.

On account of a highway construction detour and muddy roads, we did not get into the romantic Evangeline country of western Louisiana. Louisiana is building more roads than any state in the Union. At Baton Rouge, where we tarried longest, the state is spending money lavishly on a new state capitol and a new state university. The southerner takes his politics seriously. Every automobile proclaims by placard that its owner is for or against the Huey Long machine.

The trip was delightful and all too short. Southern tourist camps are comfortable. Many have gas, hot and cold water, and even private baths, at reasonable rates. I feel sure if more northern beekeepers realized how easily and cheaply such a trip could be taken they would break the northern winter, if only for a short time.

## Scout Bees Again

By Milton G. Miller  
California

In the January issue of the American Bee Journal there appears, on page 19, a communication in regard to scout bees by Bruce L. Morehouse. I have seen so many instances of bees scouting or investigating a location before the swarm occupies the place that it seems to me there is no room for any doubt in the matter as pertaining to the main issue. The only points not clear might be in regard to the behavior of the bees.

After many years of observation, I submit the following:

Scouts sometimes, but not often, go out before the swarm issues from the hive. Generally the scouting for a location is done after the swarm has settled on a convenient bush or limb of a tree. The scouts go several miles in different directions.

A single bee discovers the location—a hollow tree, cave in the rock, an empty hive, or very often an empty space in the walls or cornice of a building.

On returning to the swarm, she communicates her success to other bees of the colony, which follow her back to the discovered location. Soon bees will be flying about the place, passing in and out, much as if it harbored a full swarm. This may go on for days, the bees cleaning out the place and defending it against intruders. However, no loaded bees will be seen to enter and no bees will remain at night.

If no suitable location is discovered within a day or two, the swarm makes a long-distance flight—perhaps toward some mountain or range of hills. It has been stated that bees could not see far, but I have reason to believe that they can see, perhaps but dimly, quite a long distance. Swarms of bees have been known to fly from the coast of southern California to the adjacent islands, a distance of some sixteen or twenty miles.

It is this propensity for long distance flights, as well as many efforts, that has put wild bees in nearly every corner of the globe where bees could make a living. It is not reasonable to think that scouts go any such long distance first.

When a swarm is going, all the bees seem to be circling, but the swarm travels in a direct, straight line to its destination. It has always been a mystery to me how they could do it.

When a swarm arrives in the vicinity of a selected location, they frequently settle on a convenient bush or tree. There they may remain several hours, or perhaps over night, before occupying the selected location.

A swarm does not usually go to a selected location immediately when it is discovered. Several days may elapse before they conclude to occupy it. They sometimes consider the proposition for a week and then give up.

They seem to decide on the suitability of a place in some way akin to reasoning, otherwise they might attempt to occupy a place entirely too small or for some reason impossible.

## Another Good Reason for Swarm Control



To have a colony swarm represents a real loss to the beekeeper. If the swarm gets away, that is additional loss, and when that swarm messes up the traffic signals it becomes a hazard and a community problem. The accompanying photograph shows unmistakably how authentic is this situation. A large swarm clustered on the traffic signal apparatus and completely covered the red light on one side. This furnished a real problem for the safety director of Owensboro, Kentucky. This prime swarm issued on May 15, 1931, and very soon thereafter it took up its station at one of Owensboro's busiest street intersections, Main and Davis streets, where it was in complete control of all traffic for a period of several hours.

Prof. Price.

### Memory Helps in Beekeeping

We are in receipt of a booklet, from our beekeeping friends in Al-

geria, entitled "Aide-Memoire de l'Apiculteur." This is just a resume of the knowledge indispensable to beekeepers.

The beekeepers of Algeria belong to the progressive branch of the industry. They believe in movable-frame hives, in comb foundation, and in the different implements which are the indispensable helps of the active beekeeper.

We send them our heartiest good wishes across the seas. Algeria is a growing country.

## Ann Welcome (Ella Lehr) in "Kitchen Lyrics" for San Francisco Call-Bulletin

Ella Lehr, who has been conducting cooking schools on the Pacific Coast, is now home economics editor of the San Francisco Call-Bulletin, writing under the name of "Ann Welcome," according to our correspondence from Natt N. Dodge, of Seattle.

In one of her recent issues, she says: "If persons only used it as much as they say it, what a lot of vim, vigor and vitality this old world would possess—honey. Not that we do not need the mental perkings up the word lends when affectionately applied—goodness, no—but its syrupy smooth self gently insinuated into our salads, served on our fruit, converting ice cream into "sundaes," serves equally well as a pickup to the physical self.

"Honey—chockful of teasing flavor, to be sure, but carrying armful of energy and minerals galore. So easily digested that it is often used along with the 'little guy's' milk to give him the right sort of shove-off into life, so delightful that it coaxes the young fellow to leave off his kite-flying to eat, and as he grows into manhood—sustaining his physical and mental energy as few other foods do.

"Hot biscuits—and honey in the comb—what mouth-watering memories it brings of kid day breakfasts! But don't stop that, for honey, combined with other food, lifts them out of the ordinary into distinction.

"Have you tried a great dish of strawberries, honey and cream with bran muffins and coffee—for breakfast? Or honey warmed and drizzled slowly over fruits and cereals? Let Johnny have his own little pitchers of warmed honey and of top milk, and watch his cereal disappear.

"Do try a tablespoon of honey added to French fruit salad dressing—a bit of honey mixed into the fruit salad itself."

And that's not all of it. We don't have room for more. She gives some Institute honey recipes, some of the best of them. Hope to see Miss Lehr keep up this good work. Best of luck to "Ann Welcome."



# Increase in Bees in Pacific Northwest Orchards

By Observer

**A**N orchardist at Brewster, Washington, Mr. Bert Berry, in the great Wenatchee apple district, states that in his section no bees were used for pollination four years ago; fifty hives three years ago, and last year between five hundred and seven hundred. He says, "Some were local bees, but a large part were shipped in from California. In my opinion the use of bees in pollination work will keep on increasing for a number of years. While some local bees are used, there are not nearly enough. Our intensive spray program has killed off most of the pollinizing insects, including bees, and will probably do so from year to year. Of the several hundred packages shipped here last year, I do not think that there is a single hive alive today. The point I wish to make is that the orchardists here look upon bees as an expense, to be met yearly, and do not expect to be able to carry them over from year to year."

The manager of the Brewster district unit says: "I am convinced that it will not be long before the use of bees for pollinizing purposes will be considered one of the regular expenses of crop production the same as spraying and other operations. I believe the shipping of package bees will largely increase because we have not many regular beekeepers in this whole valley. They rent their hives, deliver them to the orchards and take them away for \$5.00 per hive. They are removed before the calyx spray of arsenate is applied. However, many of these swarms are weak, while we find that package bees are full and vigorous. Another point is that we once thought we could save the bees and carry the hives over from year to year, but we learned that the average orchardist has not time to look after them and also that in order to survive during the spraying season they must be taken miles away up into the mountains and left there with little or no attention; then we run chances of the winter or disease killing them off. So most of us have concluded to buy new package bees every spring, let them do their work during blossom time, and then let them gradually dwindle away. One orchardist ordered fifty packages this spring with this in view, and in fact is not going to the expense of hives for the bees, but will simply fit up apple boxes for temporary homes for them."

From the beekeeper's point of view, another factor complicates the problem. Beekeepers feel that they must have at least \$5.00 per colony in order to make any money. Some bees are moved as much as seven hundred miles per round trip, and

the cost may be for trucking as much as \$3.00 per colony. Combine this with the risk of poisoning, acquiring disease from local neglected bees, time and attention required, etc., and the result is that more and more beekeepers are refusing to move hives of bees into orchards for pollination unless it is into districts which are free from brood disease, where poisoning from pollination will not endanger the bees and where the hauls are short. If package bees are purchased yearly, it will be up to some inspector or local beekeeper to see that no brood disease developing in any of these temporary pollinizing colonies becomes a menace.

The Wenatchee Daily World said, in a recent issue: "An Ellensburg beekeeper has come forward with a suggestion which has interested several fruit growers within the district. He proposes 'pollination districts,' with a small charge to all fruit growers within the district. Such a proposal would depend on every grower in the district being convinced of the value and need of bees in pollination work. There has been a swing in this direction in the last few years and it now seems probable that such accord on a major question might be achieved."

"Bees are found to work within a mile radius of their colonies. As a result, many growers are benefited by presence of bees without contributing to their cost. Fence and property lines mean nothing to bees. However, the man with bees within his orchard has the only full insurance during windy and cloudy weather. In such periods bees work very close to the home colonies and do not go out great distances. The man who brings bees in every year is assured of pollination, while the man who might depend on his neighbor's bees would be taking an extreme chance in many cases."

The Wenatchee Daily World continues: "Near Mason there is a 20-acre orchard some distance removed from the hills. The average crop in 1926 and 1927 was 8,000 packed boxes. In 1928 the grower was persuaded to try bees. In the three years since then his crop has averaged 16,000 packed boxes."

"In 1928 a neighbor of this grower also experienced a greatly increased crop—but he did not use bees. The neighbor used a fertilizer which he held responsible for his increased crop. The bees could easily have visited this neighboring tract, but it is doubtful if the fertilizer could have migrated to bring the increase in the crop to first grower—the man who had the bees."

"The owner of a cherry ranch of

ten acres submits this information: Before he used bees for pollination the largest crop he ever produced was twenty-one tons. The first year after putting in ten colonies he produced fifty-three tons. The next year, although he believed it impossible, sixty-four tons of cherries were produced."

"Another rancher, the owner of 150 acres of apple trees, packed an average of 36,000 boxes of apples a year. He installed one hundred colonies of bees at blooming time, and at the end of the season found he had packed 80,000 boxes of apples, with approximately 22,000 boxes of apples lost through winds and other causes. Last year his orchard averaged 1,000 boxes per acre—150,000 boxes."

Now, let's figure a little. If ten colonies of bees produced the maximum of 43 tons of cherries increase, or the minimum of 32 tons, then one colony produced an increase of 4.3 tons, or 3.2 tons, or an average increase of 7,500 pounds of cherries per colony of bees. Was this colony worth \$5.00 to the fruit grower, or \$25.00? That is, unless the increased production overstocked the market on cherries and ran the producer into the red ink.

And as to apples, the two year average in the above orchard would be an increase of 790 boxes per colony of bees. A worthwhile increase for the fruit grower.

Considering such increases as this, why should the beekeeper cut prices on bees for pollination until there is no profit in it for himself or his neighbor beekeeper? What fools we mortals be!

## Bitterweed in Arkansas

I noticed in "Editor's Answers" a reference to bitterweed in Arkansas.

Regarding its general distribution throughout the state, I am not informed, but I do know that in the northwestern part of Arkansas, including Benton County, bitterweed is unfortunately very common. Several years when the Department of Entomology kept a number of colonies of bees, we had the experience of getting several gallons of exceedingly bitter honey.

By proper care, the combs that contain bitterweed honey may be kept out when extracting. Furthermore, by extracting early, the danger of bitter honey may be avoided.

One of the *Bidens* group (*Bidens involucre*, I think,) is exceedingly common here and sometimes enables the bees to gather a considerable supply of honey that has an attractive golden color and a somewhat strong but quite an agreeable flavor.

W. J. Baerg, Ent.,  
Arkansas.

In all sections of northwestern Arkansas, as well as in eastern Oklahoma and southwestern Missouri, there is a weed known as bitterweed growing in pastures and uncultivated fields. It grows from six to eighteen inches high, is very resistant to dry weather, and its bushy form with yellow blossoms begins to appear about the tenth of August and continues to bloom until frost, about the twentieth of October.

The plant produces little nectar and the bees do not work on it except during a dearth of nectar from other sources, usually during mid-September until frost. Honey produced from the bitterweed is golden yellow in color and very bitter. Suppers of good honey left on the hives after September 1 are likely to become contaminated with this bitter honey and unfit for human consumption, but of course the bees can use it for winter stores.

However, 1931 was an exception in this locality, about forty miles from Benton County, Arkansas, as all good beekeepers harvested two crops, one in July from clover and the other in September, a mixed amber honey with not a trace of bitterness.

We usually have a good clover flow here in May and June and it is customary to extract very close during late July or early August, after which the bees invariably fill two ten-frame bodies for winter before frost interferes with their labor.

C. W. Reeves, Arkansas.

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The bitterweed grows out in pastures and outlots. I have been keeping bees eighteen years, and the only trouble I had was in 1917 and in 1927. Those were both wet years in August and September. I don't think the bitterweed will ever give much trouble in Tennessee, as it does not yield much honey here, and if the bees are seen working on it a shallow super will take care of the honey and it will do very well for winter feed. I do not think it will ever make much trouble for us. The bitterweed has been here about ten years. It will make milk bitter as well as honey.

W. J. Dunn, Tennessee.

## West, How Could You?

*Being a reply to "Illinois How Could You?" in February "Doings in the Northwest"*  
Page 71

By C. S. Watts  
Wisconsin

THIS world is well supplied with buck passers, but the writer feels it might not be out of place to join that numerous crew after reading the reference of N. N. Dodge in the February issue to honey-flavored corn syrup sold in the Northwest and packed in Illinois.

The paragraph mentioned seems to cast reflections on Illinois because she has marketed such a product, and it seems reasonable to suppose that honey has been done an injustice and perhaps harm.

The writer (until very recently) lived in Illinois, within an hour's drive of the corn products plant making and selling the syrup referred to, and our records of sales show that, in one year, we sold more than \$1,000 worth of honey to these people. So we are in a position to know something of the facts and to defend Illinois and the corn products people to good advantage.

To get to the buck passing. While the writer and other Illinois beekeepers have sold honey for this syrup, the fact is that the bulk of their honey came in carloads from the West, perhaps not Mr. Dodge's immediate locality in the Northwest, but at least in that general section of the country. So we feel justified in saying, "West, how could you?"

Yet the writer indulges in such comment with a good deal of hesitation. It is our belief that our selfishness often leads us into actions really against our own interests when we depreciate the product or practices of a competitor.

In this case the buyer responsible for the purchase of this honey is authority for the statement that his concern used slightly more than 160,000 pounds of honey in 1928 to mix with corn syrup. In getting this product before the people they have spent considerable money in advertising and have certainly done beekeepers of the country some service in that way. Certainly, too, the removal of over eighty tons of honey from the market in one year and at a time when honey markets have been none too good, has hardly been a detriment either.

Mr. Dodge mentions the price of 35 cents per five-pound pail, and perhaps that is his reason for criticizing this product. Well, why not 35 cents? The syrup in question contained 20 per cent of honey, in place of the customary 20 per cent of cane sugar syrup. In other words, there was one pound of honey in each pail. In many places, beekeepers are themselves selling honey retail at 10 cents in five-pound pails, and many stores at 12 cents, few at more. That would leave 23 cents for the four pounds of corn syrup, and the Illinois farmer is getting about 20 cents per bushel, or approximately one-third cent per pound for the raw material. Eighteen times the raw material cost should not be too low a price, it seems to us.

If it is any comfort to those who feel opposed to the sale of such syrup, it is the expectation of the writer that this market for honey will not persist. The superintendent in charge of syrup blending in this

plant was not acquainted with the nature of honey, and made the mixture at much too high a temperature. This was later reduced somewhat, but the temperature of the syrup when the honey was added was never less than 180 degrees, which any beekeeper knows will ruin the flavor of honey.

Had some beekeeper been able to impress upon these people the importance of handling honey at a low temperature at an early date, no doubt this brand of corn syrup would have continued to afford an outlet for large quantities of honey and would have put our product on many tables where it would not otherwise appear. As things stand, they have discontinued the mention of honey-flavored syrup in their publicity, and the writer feels he has lost a good market. Let us be alert to help such efforts in the right direction for our mutual good; not to criticize and hinder them.

## Honey Cookies in "American Independent Baker"

In the September 25 number of the American Independent Baker we find the following recipe for honey cookies:

2 lbs. brown sugar  
3 lbs. honey  
2 lbs. invert sugar  
1 lb. molasses  
1 lb. butter  
¾ oz. cloves  
1 ½ ozs. cinnamon  
¾ oz. ginger  
10 lbs. flour  
12 ozs. egg yolks  
8 ozs. milk  
1 ½ ozs. soda  
½ oz. ammonia  
12 ozs. citron  
12 ozs. orange peel  
1 oz. salt

Heat the brown sugar, honey, invert sugar and molasses until the sugar is dissolved (do not boil).

Pour the syrup on the butter, salt and spices. Mix these ingredients until thoroughly incorporated and then cool to about 120 degrees F. Add the flour to the cooled ingredients and then mix the whole mass until smooth.

It is preferable to age this dough at least twenty-four hours before adding the remaining ingredients. After the dough has been aged, mix the soda and ammonia into the milk and add them along with the egg yolks to the dough. Mix until smooth. Then add citron and orange peel.

If you wish to make the dough up without ageing it, mix up the soda and ammonia in the milk and add them with the egg yolks and the flour to the cooled ingredients. Mix until smooth.



## from the Little Blue Kitchen

### *Siesta in Summer*

Under a coverlet blue one day,  
I napped me a nap of a wink or two,  
And I dreamed that I sailed on a sapphire  
bay  
In a little white boat, over waters blue  
And under a sky that was azure too,  
And our boat like a bird o'er the waters  
flew  
To the land where the lovers are always  
true!

Then into my ears stole a silvery chime—  
The voice of a little delft clock I knew,  
And well, it was waking-up, getting-up time,  
And with a soft sigh a wee kiss I threw  
To the little white boat on the sea of blue,  
To the sky like a turquoise of lovely hue,  
And, yes, to a blue-coated sailor too!

And I sighed once more as I laid away  
In sweet rosemary my cover blue.  
And when I went down to my tea that day  
I treasured a secret whose give-away clue  
Was the frock that I wore . . . it was  
Heaven's own hue!  
And I smiled as I sipped of the Jasmine  
brew . . .  
But nobody noticed . . . for nobody knew.

Lida Keck-Wiggins.

### "Dog Days?"

Wouldn't you hate to be a dog in August — commonly called "dog days"? No matter how harmless a poor canine may be, he is at once looked upon with suspicion. Why? Because somebody, sometime, professed to find out that dogs are prone to go mad at a certain season of the year! They do, sometimes; more often they don't. But they are treated just the same as though any moment they might turn and bite their best friends. The wonder to me is that more dogs DON'T go mad in dog days—that is if the power of thought has anything to do with animals.

People are often treated like dogs in a very literal sense. Maybe they have at some time or other done something actually beyond the pale of the law. Maybe they have just been suspected of wrong-doing; maybe they are so independent in their way of conducting their personal affairs that they are counted "nutty." (What a travesty on good brown nuts!) Anyway for such folk other people establish a perpetual season of "dog days," and they might as well bite somebody. They really might, for they are expected to do so any minute. Why not give both dogs and human beings the benefit of the doubt. One's budget would show a much smaller expense after

the item of "dog day poison antidotes"; besides, it would be so much more comfortable not to have to be on guard all the time! Many a dog has turned seemingly mad and given a human a terrible fright, if not an actual bite, because of the terror instilled in a dumb brute's brain by suspicious glances. Many a human being has gone out and done something rash just because other folks held the thought over him all the time that he was "likely to break out any time and do something criminal" because his father was such a terror, or his mother a bad sort, or something like that.

"There's naught of good or evil here below," sang a poet, "but thinking, only thinking, made it so."

Fie upon dog days! Pat the poor craven animals on the head. Look them trustingly in the eyes. Help them to keep cool by seeing that there is a watering trough or pool somewhere about for them to drink of or bathe in, and you'll not have to worry about being bitten and getting rabies! Treat poor, "suspicious human beings" the same way. Give 'em a pat on the back, kind words, respect. Watch 'em bloom out!

Fie upon dog days!

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Now that the time has come when as much depends on the daintiness and "cool-looking-ness" of the table as upon the quality of the food, why not think through the problem of summer diet and achieve success?

Somehow green china as well as green vegetables and greenish foods add a lot to the relish of a mid-summer meal.

Almost all the five and ten's carry both green china and glass dishes nowadays in bewildering array.

A luncheon table laid in green and white is entrancing and intriguing. Then there are always such delicious salads and such appetizing ways of serving "cold cuts" of meat and other foods.

Honey Lady, always alert naturally for new ways and means of serving

honey, recently made a big hit as hostess at luncheon by arranging the piece-de-resistance of the menu thus:

Commandeering a large chop plate (it happened to be white Haviland with a dainty green-rose border design), she built up the "dish" as follows:

In the center she placed an old-fashioned white butter dish, one of the sort with the extra piece inside, perforated so that the cold from ice underneath could penetrate to the butter pats above. On this butter dish Honey Lady carefully deposited a square of honey. Then with a very sharp knife (so as not to make ragged edges) she cut the comb in convenient sized squares. Round about this dish she heaped on the chop-plate a wreath of fresh, crisp water cress, or it could have been the curled inner leaves of head lettuce. Then around that she placed neatly-trimmed slices of home-baked ham. (In Honey Lady's case, of course, this ham was baked with honey and mustard.) Then came a circle of those lovely "strawberry radishes," washed and polished, and each being allowed to retain a few of its own leaves. The radishes were placed so that their greenery made another circle or stripe around the platter. Then came a circle of delicately-sliced cucumbers. (These had been soaking in salt ice water for about three hours.) On these she sifted salt and pepper. Then there was a row of sliced tomatoes, and finally a frill of lettuce leaves. Not much of the lettuce showed, as the limit of the plate surface had about been reached, but enough extended out over the edge of the plate to give the whole a finished appearance.

With the items on this plate Honey Lady served hot biscuits, "sweet butter" and hot coffee.

The two hot features were considered quite enough "heat" for a hot August noontide meal. Yet they were relished.

Each guest had her own individual salad plate and was told by Honey Lady to dress her salad as she desired. Then she was offered a choice of home-made mayonnaise (there was honey in that too) or French dressing, or plain vinegar, salt and pepper, with possibly a dash of sugar!

It was easy for each guest to serve herself the makings of an individual salad, because the lettuce could be taken off first, then the tomato and then the cucumber. Then each could take her portion of ham and honey. To such as didn't care for honey in the comb, but liked it "extracted," Honey Lady revealed her personal secret process—that is, she just daintily lifted the china plaque on which the honey rested, let it rest a moment on a plate, and lo and behold! in the under part of the old butter dish was a nice little supply



of extracted honey! Guests who didn't like honey with their hot biscuits were served home-made jelly, some of that having been made last summer with honey, as Honey Lady told the Blue Kitchen readers at the time.

For dessert after this meal there was delicious ice cream and angel-food cake.

If one happens to "have spring chickens" or cares to have cold baked chicken for a simple summer luncheon, then the white meat of the fowl could easily be substituted for the ham of the porker. Indeed, any cold meat would be suitable.

All the china used with this meal was green and white and the crystals were all a restful green. The cloth was pure white and so were the napkins.

White roses in a green bowl formed a fetching centerpiece. AND Honey Lady wore a green and white voile dress!

And when her guests departed, instead of the usual inane banalities about SUCH a lovely time, so sweet of you to ask me, etc., each one had something individual to say—something that showed the luncheon had really "registered"!

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#### How to Keep Cool in August—and Other Times

Don't talk about the weather.

Don't fan.

Don't drink ice-water.

Do all the work you possibly can early in the morning.

Prepare your dinner, as far as possible, right after breakfast.

Eat as much cold food as possible, especially fruits.

Don't lose your temper!

Don't talk loud or make gestures!

Don't wear red or yellow dresses.

Try getting a faire for greens and blues and oyster pearl.

Cultivate the habit of being thankful that the thermometer isn't registering zero and that it's much cheaper to live in summer than winter any way you take it. That's one of the silver linings to the depression clouds.

Above all, keep your brain cool. Your body will do the rest!

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Honey Lady suggests that for a change ye distracted hostess mix honey and "bitey" cream cheese together and use for sandwich filling. The family will appreciate not having to spread its own bread some torrid night, and the above is an excellent thing to use for a change; and of course it's immensely healthful and easy to digest.

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Mr. Editor, here's a nice little filler (no pun meant), if needed.

#### Honey in Baking Powder Biscuits

Incidentally Honey Lady picked up somewhere a recipe for baking pow-



L. L. ANDREWS AND HIS FATHER,  
THE LATE T. O. ANDREWS

der biscuits in which honey was an ingredient. She can't remember where she found the recipe or who gave it to her, but she tried it and found it by no means wanting, so she will use quotation marks in giving it, and if the person who conceived of this fine idea sees it thus passed on he will understand, and accept her thanks besides.

This is the way these delectable biscuits are made:

"2 cups flour

1 cup milk

4 tablespoonfuls shortening (vegetable fats are best)

2 tablespoonfuls of honey

2 teaspoonfuls baking powder

1 teaspoonful salt

"Sift dry ingredients together and then cut in the shortening. Mix the honey in milk and add to the dough. Work and roll out and cut with biscuit cutter."

These are delicious when served with honey in the comb or any kind of preserves or jelly.

#### Corn Syrup Maker Quits Honey

One of the largest corn syrup manufacturing companies in the Middle West announces that it is going to discontinue the manufacture of "honey-flavored syrup."

No statement is being made as to why they are discontinuing this particular kind of syrup, but it may be due to the fact that the customer is disappointed in the syrup when he finds that it does not begin to compare with pure honey.

#### T. O. Andrews Passes Away

T. O. Andrews, veteran California beekeeper, passed away at Redlands, California, on July 5 at the age of 87. Mr. Andrews was born in St. Thomas, Canada, coming to the States at an early age. He enlisted in the Civil War in General Custer's Company E, First Michigan Cavalry, serving three years. He returned to Canada in 1868, marrying Elizabeth Lackner in 1868. Moves were made to Michigan, Missouri and Oregon before finally settling in southern California in 1893. Mr. and Mrs. Andrews celebrated fifty-seven years of wedded life together before the death of Mrs. Andrews.

T. O., as he was familiarly called by the beekeeping fraternity, had been engaged in bees for thirty-three years before he retired five years ago. He and his son, running their bees separately, but always working together, were among the best known and largest beekeepers of the country.

T. O. was the president of the California Beekeepers' Association at the time the American Beekeepers' Association met there in 1905. He took a keen interest in everything pertaining to bees and was for many years county bee inspector and president of the Riverside County Beekeepers' Association. He was also prominent in the civil and financial life of his community.

He leaves two sons and two daughters, the oldest of them being L. L. Andrews, of Corona, well known to our readers.

#### How Uncle Sam Ferrets Out New Facts

(Continued from page 323)

kept alive for eight months on a diet of honey and water. Today he is well, hearty and healthy despite the fact that a short time ago he was doomed to die.

Marathon runners are now substituting honey capsules for milk chocolate which they nibbled formerly in their long races over hill and dale.

British soldiers and sailors are granted regular rations of honey because science has found the remarkable nutritive value of this food and its ability to develop energy rapidly. It requires no digestion in the stomach. It is absorbed immediately into the blood stream. So the bee is becoming the chief actor in the inside story of how various sports championships are won.

# THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

## BEES ON POOR HONEY

In the May Journal a man asks about "grainy cell deposits." I have similar deposits in two colonies, which I assumed to be crystallized material left from aster honey. Both colonies were very weak, with lots of dead bees. I cleaned them out and put in a two-pound package of bees from the South and they seem to be O. K. The queen in one of these colonies in particular is very large and fine, but had a weak colony, due to my making a division too late in the fall. Now I wonder if she has been injured by this poor honey?

The bees had plenty of good white honey, but the last thing in the fall after they had been prepared for winter there was a flow of aster honey, with which they filled up their empty brood combs. How could this have been prevented? Should I at that time have given them a heavy feeding of syrup? When I saw a heavy flow of aster honey coming in, I put a comb honey super on one overloaded colony just to see what aster honey was like. It was too rank for us; we could not eat it. A peculiar soapy odor was noticeable quite a distance from the hives. CHICAGO.

Answer—Your suggestion that the grainy deposit in the cells is crystallized honey is quite plausible and I acknowledge that I had not thought of that; having not seen the material, I thought only of possible brood conditions.

Such grainy honey will soon be disposed of by the bees. At this time of the year it is readily disposed of by sprinkling it very slightly, which gives the bees a chance to dissolve it. This would not do in fall, as the honey must be as ripe as possible at that time. As to this having any influence or injury upon either the bees or the brood at this time, it is out of the question.

Regarding a flow of aster honey in the fall, we have seen it, but have had but little trouble with it, as it was not fermented. However, we would recommend that you extract all such honey from the combs that do not have unsealed brood, in the fall. Heavy feeding of syrup such as you suggest would be of little avail, unless it was given previously with the purpose of filling the brood combs. I hardly think you need be afraid of rank aster honey as a usual occurrence.

## EXTRACTING FROM BROOD COMBS

Does it hurt sealed brood to extract the honey from the top of the frames?

We generally have a good flow from dandelion here, and when the brood hatches out later the frames are filled with clover and it spoils my clover honey to have it mixed with dandelion. ONTARIO.

Answer—I do not believe that it would kill the sealed brood to have the honey extracted from the combs above it. But it should be done very carefully and with as little speed as possible.

But is there not some unsealed brood in the same combs? That brood will be thrown out as also the pup which is contained in the combs. So I think it would make a very disagreeable condition. Better accept the mixture of a little dandelion honey with your clover honey.

Try the job on one or two combs before deciding whether you should do it on an entire lot of brood.

## CLARIFYING BEESWAX

In my effort to clarify a quantity of beeswax taken from old black combs, I have

failed. I used one teaspoon sulphuric acid to ten pounds of wax. Is there a better method than this? INDIANA.

Answer—If you will soak old black combs for several days in water, using a stone to hold the combs down, and if you will then throw the water away and use clear water to melt them in, you will get fairly yellow combs without using any acid. The trouble in using acid is that one uses several times more than is needed. The result is that it spoils the wax to a certain extent and gives it a very unpleasant smell.

## LATE TRANSFERRING

I am just a beginner in beekeeping, but have done quite a lot of reading about them.

A friend of mine loaned me several old copies of your magazine, 1916-17-21. From our library I got "A B C and X Y Z of Beekeeping," Fifty Years Among the Bees," also books by Langstroth, Phillips, and C. C. Miller.

I have only one swarm that I hived in June. I have had no experience with bees up until this time, but find them very interesting and want to expand.

What I would like to ask you is this: Is September too late to transfer bees?

A friend of mine came to me and told me of a swarm in a building. I want to get them, but cannot until September 1. Is that too late to transfer them into a hive and put them on a stand by themselves, or would you unite them with the swarm I now have? Your paper issued October, 1917, carries an article on uniting. If I cut the brood comb out of the building in sizes to fit my brood frames, will the bees take care of the honey that will run over the comb? Is it too late to give them a hive with new brood foundation and let them build new brood comb, feeding back the honey I get from the building?

Can you tell me if the apiary formerly owned by C. C. Miller in Marengo is still in operation? ILLINOIS.

Answer—September is not too late to transfer bees, although an earlier date would be better. But you can bring them through if you give them enough attention and feed them if they need it.

The bees will be sure to take care of the honey that may be stored in the building. However, you must be careful that some other bees don't find it also and help themselves. If you give them brood foundation, do not give them any large amount. If they can be hived on seven or eight combs, and have a supply of honey for winter, more may be added in the spring.

The apiary of Dr. C. C. Miller was already almost non-existent when he died. You must remember that he was nearly 90 years old at that time.

## VIRGIN QUEENS

In examining one of my colonies I noticed but very little brood and no eggs, so I looked for the queen, but could not find her. She must have disappeared. (I introduced this queen this spring.) So in looking over the combs carefully I found a very small queen. Do you think she would be fertile, or should I introduce another one? KANSAS.

Answer—It is quite probable that the queen which you introduced in the spring was killed or died and that the bees have reared another, the one that you saw. Probably this young queen was not yet mated and it is likely that she will mate and begin to lay in a few days. However, if after a week or ten days she does not lay, you had better get rid of her and get another one.

The small size of a queen when she is not yet fertile is no proof against her. We have seen very small looking queens become very good layers. So if she begins to lay, you had better give her a chance.

## PERSISTENT BROODLESSNESS

I am producing extracted honey in a small way, practicing Demaree plan of swarm control, as my work does not permit me to be with bees during the day. In going over my stands about the last of July, I found one stand with hardly any brood, while other stands had the brood chamber full of brood. The next time I went over them I still found this same condition—no eggs or brood and bees filling brood chamber with honey and pollen. I found the queen and she looked all right, nice and big, being a queen that I bought last fall when I requeened; so I ordered a new queen from the same queen raiser, thinking that the old queen had failed. I killed the old queen and introduced the new queen, using the shipping cage received, from which bees released queen by eating out candy.

This queen was released about three weeks ago, but still no signs of eggs or brood. About a week ago I gave this stand a frame of sealed brood from another hive, thinking that perhaps this would induce the queen to start laying, but nothing doing yet. Of course, I notice that the other stands are slowing up on brood now.

What would you suggest—another queen? Perhaps the one I received was injured in shipping. ILLINOIS.

Answer—I cannot imagine any cause for the absence of egg-laying, unless your colony is short of stores.

In this case you could soon get the queen to laying by feeding them a little sugar syrup or honey.

If the queen has been injured in the trip, so that she cannot lay, try giving the colony a comb of young brood. If the queen is unable to lay, the bees will immediately rear another queen from the young larvae.

## MULTIPLE EGGS

1. I have a hive of bees in which I find several cells containing two eggs. This, I believe, indicates a laying worker, but to complicate things I have found the queen and she seems to be all right. Is there anything I could or should do?

2. Also, we have been troubled by ants on and around the hives. Is there anything that can be done except move away and leave them? GEORGIA.

Answer—1. Yes, two eggs or more in one cell are an indication of laying workers. But when there is a queen it is an indication either that she is young and a little awkward or that there is not room enough in the combs covered by bees for her laying. In the latter case this abnormal laying does not last very long.

2. As for ants, the best way is to find the nest of the ants and throw boiling water on it till they are killed. But if you cannot find their nest, just paint the lower edge of the bottom board with coal oil or with some coal tar. Then it is a good plan to throw some dry ashes about the hives. It keeps away the ants and other insects.

## QUEENLESSNESS

One hive (Caucasian bees) swarmed about the last week in June, and when we looked through the hive about two weeks later we discovered that there was no brood or eggs in the cells, so we suspected that something was wrong with the young queen. Since then we have not been able to find a queen in the hive; but, strange to say, the bees seemed to go about their work in the usual way. We sent for a queen and tried to introduce her to the hive, but the bees killed her immediately. We sent for a second queen and all seemed well when she walked in among the bees, but when we looked through the hive some time later (about a week) there still was no brood or eggs, yet the bees seemed to work and keep on sticking together as a colony. Two weeks ago we took one frame from the swarm of this hive which was full of eggs and brood and exchanged for one in the mother hive (the

failing one) in hopes that the bees would build a queen-cell and raise a queen, but nothing doing and now the bees are getting scarce and probably soon will be extinct. What should we do—let them die and wait until spring and then buy new bees?

#### MASSACHUSETTS.

Answer—This is a condition that rarely occurs. Evidently the bees have become used to being queenless. I would suggest that you put about three combs of brood and bees from another colony in this hive. If you have a queen to spare, you might try to introduce her at the same time, but you should keep her caged about two days in the hive, right on the combs of brood.

If you do not wish to go to all this trouble, we would advise you to join this little colony to another, after having removed all its combs but about three. In this way you will have no trouble to unite it with another. Or, if you prefer, you may use Dr. Miller's newspaper method, putting this colony on top of another with only a newspaper between the two stories. It usually succeeds well.

#### TIME FOR INCREASE

I read your article in the American Bee Journal about a practical way to make increase. Please let me know about what time of the season would be the right time to make increase. I am producing cut comb honey, the Hilbert method. I have about 110 colonies in ten-frame hives. Would you deem it advisable to change over to the so-called large hive for this purpose?

#### MICHIGAN.

Answer—In the first place, I will not advise you to change from the ten-frame Langstroth hive to the larger hive, simply because the expense is too great. We prefer the larger hive, but we have used the other and can make some money in using it.

Divisions such as I recommend in the article in the May number may be made at any time when there is honey in the fields. Such divisions might even be made when there is no honeyflow, but it is much more difficult and we run more risk of robbing. We usually make our divisions at the beginning of the harvest. Of course, you may not get as much honey as you would when no divisions are made. On the other hand, if there is a second honeyflow in August, it is possible that the increased number of colonies may give you a greater harvest.

ond and miscellaneous weeds taking third place in quantity production.

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#### The "Last Chance"

Culley's Resort, at La Push, Washington, claims the distinction of being the point farthest west in the United States (exclusive of Alaska) where honey is served. Mr. Culley, the proprietor, is especially proud of the food which he serves, and he specializes in breakfasts of pancakes liberally sweetened with honey.

— o —

#### Bees Hold Up Freight Train

Bees have been accused, and frequently quite justly, of disrupting the normal course of human activity, but their usual method is by influencing man or animal through the power of the sting. On Wednesday, June 15, a swarm of bees stopped a freight train without intimidating either the engineer, conductor, or brakemen. They merely began building comb on the triple valve which controls the airbrakes and locked the wheels of the train.

— o —

#### Mandery Reports Crop

Mr. Fred Mandery, of Tenino, Washington, reported late in June that his bees had already stored sufficient honey to carry them through the winter and that he anticipated a plentiful surplus this season. At that time the fireweed had just begun to enter its prime and all indications pointed to a normal or above normal yield. Mr. Fred Brittain, of Humpulips, stated that a heavy frost visited a wide area in southwestern Washington on June 16, killing many of the cultivated crops, including potatoes, and seriously damaging the fireweed. It was feared at that time that the honey crop would be seriously affected.

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#### Poor Crop in Eastern Colorado

No honey in eastern Colorado is the pessimistic report from Mrs. Arthur Nelson, of Longmont. An invasion of the alfalfa webworm swept over the fields during June, literally stripping the crops of all foliage. Sugar beets, garden crops and alfalfa fields were completely ruined and there will be no blossoms on the alfalfa or sweet clover in that district this year. In one section such crops as wheat and oats that were well advanced when the worms arrived were ruined by hail.

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#### One Way to Get Rid of Them

Mr. Ralph Smith, of Amenia, North Dakota, has been a busy man this summer. Aside from his regular work, he took over two hundred colonies of bees which were heavily diseased and has been burning, sterilizing and

(Turn to page 342)



By N. N. Dodge

#### Webster Vice-President of Northwest Horticulturists

Dr. R. L. Webster, secretary of the Washington State Beekeepers' Association and entomologist for the State of Washington, was chosen as vice-president of the Northwest Association of Horticulturists, Entomologists and Plant Pathologists at a meeting of the association held at Lewiston, Idaho, June 21. Dr. Webster, who was formerly state bee inspector of North Dakota, has been at Washington State College at Pullman for seven years and is greatly admired and respected by beekeepers, who are much pleased to learn of the recent honor bestowed upon him.

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#### Mommsen Chairman of Institute Committee

Mr. M. F. Mommsen, of Parkland, Washington, has been appointed by Mr. C. W. Higgins, president of the Washington Beekeepers' Association, to act as chairman of the American Honey Institute Committee of the association. The Washington beekeepers have been especially active this season in giving publicity to the health and food values of honey, co-operating with Mrs. M. F. Jensen, of the American Honey Institute. Mr. Mommsen will direct the work of the A. H. I. Committee, of which there are nearly thirty members throughout Washington State. Each member

will promote honey publicity in his own community, building up interest in the product of the bees until a climax is reached during National Honey Week in November.

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#### Fooling the Grasshoppers

North Dakota farmers are fooling the grasshoppers this year. Usually the army of these insects which annually invade the agricultural lands are combatted with poisoned bran mash, but this season poisoned sawdust is being used. It is reported that the grasshoppers do not know the difference and eat the sawdust as readily as the bran. It has not been stated whether the bees are fooled or not. Unfortunately, grasshoppers like sweets as well as bees, and when sweets are used to attract them, bees may be lured to the bait as well.

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#### Todd Studying Nectar Sources

Mr. Frank E. Todd, of the Pacific Coast Bee Culture Field Station at Davis, California, is making a study of nectar sources throughout the Pacific Northwest to determine if possible the relative economic importance of the various nectar-producing flowers. A United States Department of Agriculture bulletin compiled in 1918 indicates that the leading source of nectar in Oregon and Washington is alfalfa, with fireweed a close sec-





### Iowa Radio Talks Start September 12

The fall series of radio talks to be given over our station, WOI, will start September 12, on Monday at noon. This is the usual hour for this series of talks. The reception of the spring series was far beyond our expectations and encourages us to greater effort. One of the developments of the spring series was the demand for the apiary score card and calendar, which developed into the Apiary Improvement Club. We feel that this club has a future and our discussions this fall will feature the work which is being done in the club.

### Mid-West Horticultural Exposition November 15-20

The Mid-West Horticultural Exposition will be held at Marshalltown on November 15 to 20. The premium list for the honey department is being revised. The outstanding feature is that there are ten premiums in every class. The classes are not as numerous as last time. Special emphasis is being placed upon the window displays, as these seem to be very popular both to the entrants and to the public. It is through this class of entries that a popular appeal was made to the public. It probably has more to do with the increased consumption of honey than the straight exhibits of material.

F. B. Paddock.

### Western New York Field Meet

We are sending notice of annual field meeting of the Western New York Honey Producers' Association, to be held August 27 at Divers Lake, one-half mile north of Indian Falls outapiary of John Demuth & Son. The Genessee County beekeepers are holding their meeting with them.

A. W. Mason.

### American Honey Producers' League

The fourteenth annual convention of the American Honey Producers' League will be held at St. Louis, Missouri, on February 7 and 8, 1933. It will be preceded by meetings on February 6 of the Bee Industries Association and the American Honey Institute. The convention hotel has not yet been selected, but only those will be considered which guarantee to give honey plenty of publicity by providing plenty of space for exhibits and serving it to their patrons.

Copies of the 80-page Annual Report of the League are still available

to all new members who send their dues of \$1.00 to the secretary, V. G. Milum, Vivarium Building, Champaign, Illinois. As long as the supply lasts, the secretary will also mail each new member twenty or more copies of the back issues of the American Honey Producer, which contain many articles on beekeeping subjects.

The League Law Book is still available at a cost of \$1.00. According to an announcement on page 150 of the July issue of "Bees and Honey," this might have saved Mrs. Ellis, of Los Angeles, some \$500 in attorney's fees. The law book should be in the hands of every beekeeper. It will protect you from illegal city ordinances declaring bees a nuisance.

The League warning posters for display in apiaries to prevent thievery are still popular with a number of beekeepers. One large beekeeper recently ordered twenty-five at \$1.00 each for posting in his scattered apiaries. The posters cut down thievery and destruction of apiary equipment.

V. G. Milum, Sec'y-Treas.,  
Am. Honey Prod. League,  
Champaign, Illinois.

### Illinois State Fair Honey Cookery

Beekeepers' wives and others are also offered an opportunity to show their culinary skill with the use of honey as indicated by the premium list recently announced for the Illinois State Fair. The prizes for the various items range as high as five dollars for first, three for second, and two for third.

The following items are listed in the list: Honey oatmeal gems; honey ginger bread; plain honey bread; whole wheat bread; honey muffins; honey devil's food cake, chocolate icing; honey white cake, white icing; honey yellow cake, white icing; honey crisp wafers; honey date bars; honey gingersnaps; honey hermits; honey oatmeal cookies; honey divinity; honey fudge; and honey nougat.

### Freight Rates Reduced on Beehives

At a hearing before the rate committee at Chicago on July 20, an agreement was reached whereby the rates on beehives in the western territory will be reduced one class as soon as the rate can be published and made operative.

As beehives are now third class, this will mean that they will be moved into fourth class, with a consequent

substantial saving to everyone who buys bee supplies and has them come by local freight. We understand that the car lot rate has not been changed.

Mr. K. Hawkins, of the G. B. Lewis Company, and Mr. Herzog, of the A. I. Root Company, appeared at the hearing. Although there is no particular saving to their companies, since most shipments are made car lot, or else freight is paid by the consumer, yet no doubt their vigilance and activity will redound to the benefit of their companies.

This is the second victory for beekeepers within a few months on substantial savings in transportation, the first being the reduction in express ratings on package bees, which has already gone into effect.

### Bees and Honey Premiums

The 1932 dates for the Illinois State Fair are August 20-27 inclusive, and beekeepers of the state are offered an opportunity of carrying away a portion of the \$725.00 listed in the regular class and \$100.00 in the class for amateurs.

Those who are interested in exhibiting at the State Fair should write immediately for copies of the premium list by addressing Mr. Milton E. Jones, General Manager, Illinois State Fair, Springfield, Illinois.

The items for which premiums are offered in the regular class are as follows: Case of white comb honey, 24 sections; case of amber comb honey, 24 sections; frame of comb honey for extracting; collection of labeled cases each containing 12 or more sections of white and amber honey; display of comb honey, not less than 250 sections; display of light extracted honey, 40 to 60 pounds; display of amber extracted honey, 40 to 60 pounds; display of extracted honey, not less than 250 pounds; display of candied honey, not less than 150 pounds; display of designs in comb honey executed by the bees under the control of the apiarist; one frame observation hive, three-banded Italian bees with queen; one frame observation hive, Golden Italian bees with queen; one frame observation hive, any other race except hybrids, threebanded and Golden Italian bees with queen, correctly named; display of beeswax, not less than 25 pounds of wax moulded by the apiarist; art designs in beeswax, not less than five pounds; honey vinegar, one-half gallon, with recipe for making; and sweepstakes.

The amateur group contains the following items: Case of white comb honey, 24 sections; case of amber comb honey, 24 sections; light extracted honey, 24 one-pound labeled jars; amber extracted honey, 24 one-pound labeled jars; one frame observation hive, three-banded Italian bees with queen; display moulded beeswax, not less than 10 pounds; best arrange-

ment of the above entries and additional materials for an attractive display; amateur sweepstakes.

#### Yakima County Asks for County Paid Inspector

"Aid in maintaining a bee inspector in Yakima County is necessary if the bee industry is to survive," declared W. A. Dunlap, president of the Yakima County Beekeepers' Association, at a meeting June 25, at which it was voted to ask the county commissioners for an appropriation in 1933 to provide for a full-time bee inspector.

An audience with the commissioners is being arranged for some time in July. Accompanying the bee men to the meeting will be a number of fruit growers, who will argue the necessity, from the point of view of horticulture, of keeping the bee industry flourishing in the valley, one of the largest fruit-producing regions in the United States.

During the month of June, previous to the meeting, W. C. Wixson, inspector, examined 800 colonies and found that 76 of these, or nearly 10 per cent, were infested with foulbrood.

Isabel Neill,  
Washington.

#### Puyallup Picnic

Beekeepers of the State of Washington are planning a reception and all-day picnic for Dr. and Mrs. B. A. Slocum, in Puyallup, Washington, on August 16. An interesting and entertaining program has been arranged and all the beekeepers of the state are planning on attending the meeting.

Dr. and Mrs. Slocum are enroute to the Orient, where he has accepted a chair in one of the universities of China to teach beekeeping.

Frank Ross.

#### Nectar Concentration

A bulletin of more than passing interest has recently been issued from the Iowa Experiment Station. It is entitled "Changes in Nectar Concentration. Part 1. Changes which Occur Between the Flower and the Hive," by Dr. O. W. Park. Changes which occur within the hive will be considered in a separate publication.

Dr. Park reviews the literature covering a long period in which it was assumed that the bees eliminate a considerable part of the surplus water from nectar while in flight. The fact that the bees were often observed to discharge water when on the wing gave rise to this assumption.

Dr. Park credits the late Charles Dadant as having been the first to oppose this theory. He contended that the water thus thrown off was a natural elimination which followed

the process of digestion, with no relation to the making of honey.

Dr. Park baited the bees until they formed the habit of feeding at a special station which he provided. The syrup was carefully checked as to concentration. Outgoing field bees were captured and starved for an hour and then fed on syrup or nectar which was gathered by hand and colored to make it impossible for the bees to substitute another load without detection. After the flight to the hive the bees were captured and dissected and the load carefully examined. The investigation included a large number of experiments with nectar of various degrees of concentration.

It was found that the honeybee changes the concentration of nectar or syrup very little while on the way to the hive. What change there was proved to be a decrease rather than an increase, as formerly assumed. It was found that the change while in the honeysac was independent of the factor of flight.

This is a very interesting study which every serious student of beekeeping will want to read for himself.

Copies may be obtained from Dr. Park or from the Iowa Experiment Station at Ames.

#### How to Introduce a Queen Into a Laying Worker Colony

First, get rid of the drone-laying workers. To do this, shake the bees off the combs. Do not leave any bees on them. Put these combs into an empty hive body and carry the bees which have been shaken off (into an empty hive or box with one or two combs) some distance away to a new stand.

Now set the hive with the empty combs on the old stand with at least one frame of brood and bees from another colony. Put the new queen in her cage next to the comb of bees and cover the hive.

This must be done on a day when the bees are busy in the field. The bees will all come back to their old stand, but the drone layers will not.

To unite a drone-laying colony with another, I would treat the drone-laying colony in the same manner and unite afterward.

Alphonse Veith, Indiana.

(This method of Brother Veith's will work. We sometimes shake the bees out in the grass some distance away without bothering with the extra hive body of combs. Simply take away the bees, hive, combs, and all; put an empty hive in their place with the young emerging brood and new queen which Brother Veith mentions, shake the bees out in the grass, and return the combs to the original hive. Editor.)



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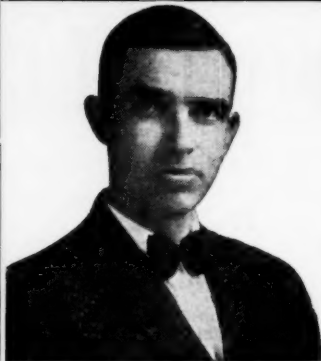
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GUS DITTMER

Beekeepers will generally be grieved to learn of the death of Gus Dittmer, of Augusta, Wisconsin, and his wife, Jennie Hatch Dittmer.

Gus Dittmer was born in Stettin, Prussia, January 30, 1853. He came to New York with his family when nine years old, later moving to Columbus, Wisconsin. In his young manhood the family came to Augusta. For over half a century he was senior member of the Gus Dittmer Company, which still continues under the management of E. H. Hanselman, who has also been a member of the firm for ten years.

Mr. Dittmer was active in the life of his community, having served on the county board seventeen years and having been a member of the Masonic lodge for fifty-seven years. At the time of his death he was seventy-nine years and five months old.

In 1878 he was married to Jennie Hatch, of Eau Claire, Wisconsin. They had four children. Mrs. Dittmer was taken ill with pneumonia during the last illness of her husband and passed on also on July 14, shortly after Mr. Dittmer's death.

**The Legend of the Avocado**

By Albert Downing  
Canada

I am acquainted with a lady here in Toronto who is the wife of a British Army officer and who lived for eighteen years in Africa. She kindly gave me this little story of the avocado, and I gladly send it to you just as she gave it to me. It will make good reading for those who



wish to know more of this peculiar but very interesting tree.

Once upon a time some wild honeybees in Africa were hovering about a lovely tree, and the tree asked the bees where they lived, and how they worked, all of which the honeybees explained.

One of the bees said: "Will you tell us now all about yourself, beautiful tree?"

So the tree swayed gently in the soft, warm breeze and spoke thus: "I am the avocado pear tree. I love the hot sun and the blue skies of Africa. I grow best when planted near a water-hole, and I grow about twenty feet high. The little blue and scarlet birds love to sit under my branches, and the pretty honey birds drink juice from my blossoms.

"After I am five years old, my beautiful white flowers come, which you now see are big and like a cup, with a perfume like the rose, after which follows a big, green, oval-shaped fruit with a smooth, glossy, thick skin; inside is a pale yellow, soft substance which is very nourishing and sustaining.

"My kernel is large, round and hard, and if humans are patient and plant it, giving it lots of water, another tree will grow from this kernel. These days, however, we are impatient to rush hither and thither and appear to have no restraint.

"The place where I now grow in abundance is called Toka, where a little boy with fair hair comes every morning to count my fruit and to sit under my shade. He says the large fruit is to be given to his mother.

"My flowers are a wonderful food for honeybees, and you are wise to come and gather it. The boy's mother sometimes comes with him and they together sit on the bank of the dam close to me, and his mother teaches him to read the language the white people talk.

"But the little boy can talk the same as the brown people, and when my fruit is ripe he will cut it open, take out the kernel, sprinkle the flesh with some white powder called salt, and grey powder called pepper. One fruit is enough for his meal and will keep him from being hungry a long time.

"I live a great many years, but this is my history, oh, little honeybee. I am always glad when you come to see me."

And the little honeybee thanked the avocado pear and flew off to the large hole in the rock where their honey is stored, out of sight and out of reach of the baboons, who often steal it.

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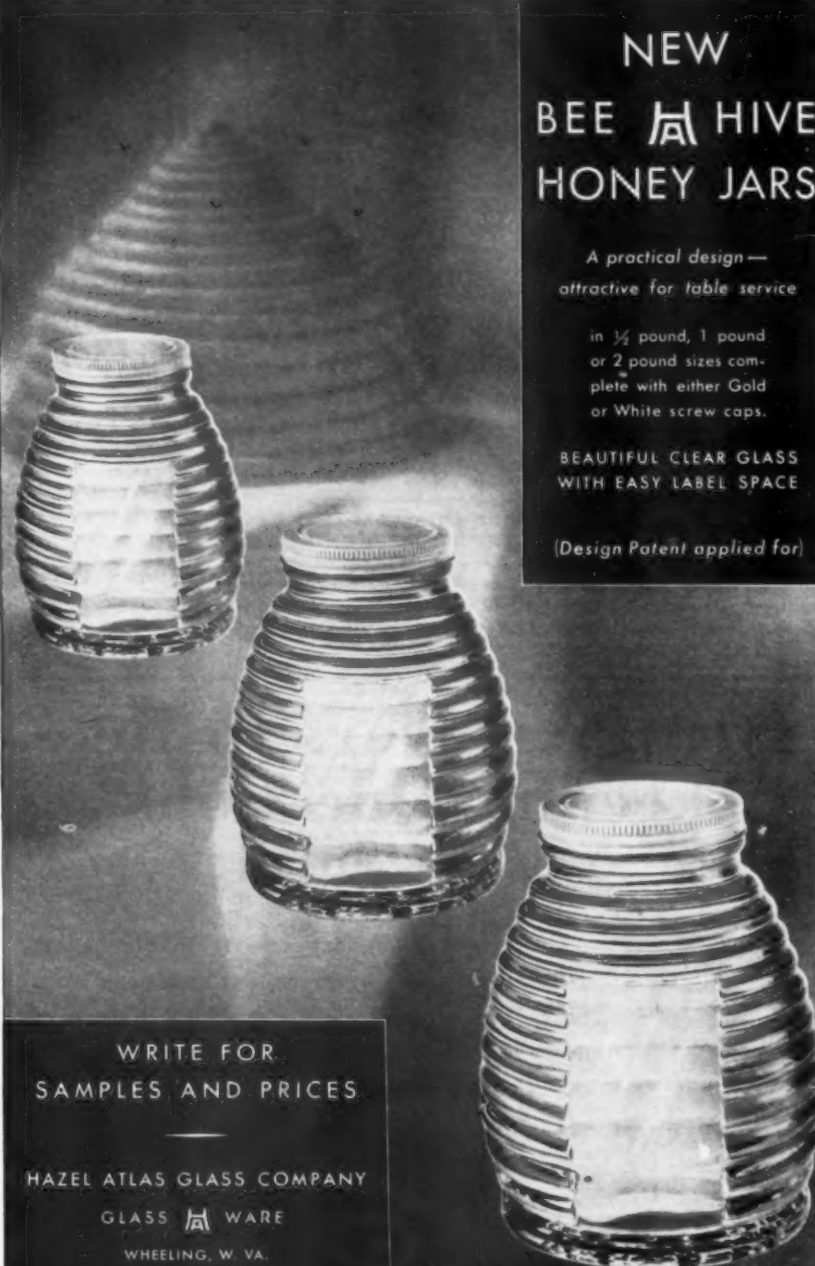
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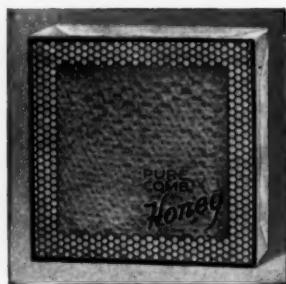
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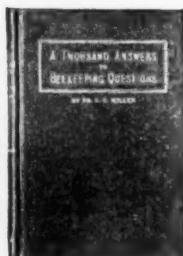
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## Doings in the Northwest

(Continued from page 337)

otherwise handling the menace in such a way as to salvage as much as possible within the limits of safety.

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### Milk River Floods

Floods in north central Montana along the course of the Milk River in June did considerable damage to roads and highways as well as injuring agricultural crops. Mrs. Charles Brittain, of the Pacific Slope Honey Company of Seattle, who made an extended trip East, from which she returned late in June, reported one apiary near the railroad track apparently ruined by the high water. The hives were either afloat and headed down stream or partly submerged in water.

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### Guide Willar Says "Eat Honey" to Climb Mount Rainier

The use of honey as a quick energy food is on the increase in Mount Rainier National Park, according to Guide Willar, of the Rainier National Park Company. The gruelling climb to the 14,408-foot summit of this magnificent peak requires great energy and endurance, and the guides who take parties to the summit during the summer are very careful of their diet, both during the climb and between trips. Willar states that sandwiches spread with a peanut-butter-honey mixture are most satisfactory as a quick source of energy during the climb. Many of the rangers in the national park service find honey a most important addition to the energy foods which they must have in their active and strenuous life on the steep and rugged slopes of "the mountain."

### Disease Control Laws

On page 290, under "The Editor's Answers," in the lower right-hand corner of the page, "Iowa" writes about disease control laws. The fourth question is: "Is there any state which prohibits entrance of honey except it is warranted free from disease?" Your answer is as follows: "Several states have laws requiring that a statement be furnished when honey is imported into that state showing that it is free from disease germs of foulbrood. But I doubt very much whether this law is enforced, because there are no tariff barriers between states in this country." The various states, as well as the United States Government, lay down quarantines for plant diseases and insect infestations. Under this same heading various states are laying down quarantines against honey which does not have a certificate accompanying it stating that it has been produced from colonies free from the brood disease of American foulbrood, the disease produced by the *Bacillus larvæ*. Quarantines, as you realize, are still being used as barriers between states. At the present time, since the European corn borer quarantine, money appropriated by the United States Congress has not been forthcoming this year, each state will lay down its own quarantine, which will all be different. The same thing holds in regard to shipment of honey.

R. L. Parker,  
Kansas State Apiarist,  
Manhattan.

# Crop and Market Report

Compiled by M. G. Dadant

For our August report we asked reporters to answer the following questions:

1. How is crop compared to 1931?
2. Prospects balance of season?
3. Suggest prices retail on following: Case comb, five-pound bulk comb, five-pound white extracted, ten-pound white extracted, sixteen-ounce jar.
4. At what price is honey selling jobbing or car lot: white extracted—, amber—, comb—?

## The Crop so Far

In the northeastern states the crop has been very spotted, but generally we would say better than last year, except that in New York State it has not come up nearly to expectations, particularly as last year was a good year.

The entire southeast has suffered and had a miserably poor year, ranking from 15 to 20 per cent in Georgia and Florida to as high as normal in Kentucky. In Alabama and Mississippi the crop has indeed been particularly short, and the same is true of Louisiana. Even Texas, which was promised good at first, has suffered.

In the central states also conditions are spotted, but the central states over the crop is going to be considerably in excess of last year because of the failure last year. In some places there will be a bumper crop; in others just a mediocre one. The total, however, will be far in excess of what it was last year, probably ranging 150 per cent.

In the plains territory conditions are similar. There has been considerably more honey gathered already than there was last year and prospects are favorable for the balance of the sweet clover season. These two areas, in fact, are going to bulk up a considerable larger quantity than last year and will help swell the total, so that the total amount of honey for the United States should be quite a lot in excess of what the 1931 crop was. The northern intermountain territory similarly seems to have been favored and there will be more than a 1931 crop there this year.

In New Mexico, however, and particularly in Colorado, the crop is going to be short. The Pacific Northwest does not seem to be particularly well favored this year, and in California the crop will be in excess of last year, but nothing phenomenal yet.

## Prospects

Prospects range about 100 per cent in the northeastern states. New York may yet get a final good crop through favorable prospects and good rains in the past few days. In the southeastern states the crop chances have come too late. Particularly is this true on the Atlantic Coast. Virginia and the Carolinas, which seemed to promise good

earlier, have not had any crop and, what is more, no anticipation of the bees any more than filling the hives. The same is almost true of the entire South. Louisiana seems to be a little better favored, with fair prospects for the balance of the year. Texas also has fair prospects, with nothing phenomenal. In the central western area and the plains states, of course, prospects are good, as the rains are continuing and sweet clover is not through blossoming at the time this is written. The same rules true of the northern intermountain territory, with New Mexico, Arizona and Colorado not being so favored. California prospects are only mediocre, and the same is true of the Northwest.

In Canada all of the Canadian provinces seem to have recovered from the drought of last year and are expecting at least a moderately good year, with better prospects in the prairie provinces than in the East.

## How Is Honey Selling?

It is too early yet to get any advice from our correspondents as to how honey is selling, but we would anticipate the sale of honey is at least as good as it was a year ago, although people have much less money to buy honey with. In other words, the lack of money is being made up to some extent by the fact that there has been an extreme shortage of fruit and will continue to be, which is in favor of honey selling. Another thing which has made it possible to sell more honey is the fact that prices are so extremely low, ranging down somewhere near sugar prices.

We append below suggestions of prices given us by our correspondents rather than to include our own suggestions. We believe, however, that the suggestions as consolidated in the table below will give an idea of just about what prices will range. It is our idea, of course, that the early prices will rule even lower than this, because there is going to be more price cutting than ever. In the central western territory, for instance, we hear of section honey selling at 10 cents per section, which is a ruinous price and uncalled for, as competition has not yet started keenly at the time this is written.

All in all, however, honey prices are holding up remarkably well compared to some of the other farm products, and we have quite a large sprinkling of reporters who are holding for the prices they got in 1929 and 1930 and state they will have no difficulty in getting it, because they have a local market built up which will take all of their honey. It is only wished that more beekeepers were in the same position, and no doubt beekeepers are going to profit largely if they can keep their honey off of the large markets and push their retail markets as heavily as possible this year.

	Car Lot White	Car Lot Amber	C. L. Comb No. 1	10 lbs. to Grocer	10 lbs. Retail	5 lbs. to Grocer	5 lbs. Retail	10 lbs. Comb Ret.	5 lbs. Comb Ret.	1-lb. Jar to Grocer	1-lb. Glass Retail	Comb to Grocer	Comb per Section
Northeast	.06 1/2	.05	---	1.10	1.40	.65	.80	---	---	.20	.25	4.00	.20
Southeast	.06	.04	---	---	---	---	---	1.40	.75	---	---	---	---
South	.05	.04	---	---	---	.40	.50	1.30	.65	.20	.25	---	---
Texas	.06	.04	---	.70	.85	.40	.50	1.10	.60	---	---	---	---
Southwest	.06	.05	---	1.10	1.40	.60	.75	---	---	.20	.25	3.00	.15
North Central	.05 1/2	.04 1/2	2.50	.80	1.00	.45	.55	---	.75	.17	.20	3.00	.15
Plains States	.04 1/2	.04	2.50	.75	.90	.40	.50	---	---	.17	.20	3.00	.14
Intermountain	.04 1/2	.03 1/2	---	.75	.90	.40	.50	---	---	---	---	---	---
Pacific Northwest	.04 1/2	.03	2.50	.70	.80	.40	.50	---	---	---	---	---	---
California	.04-4 1/2	.03	---	.80	.90	.45	.50	---	---	---	---	---	---
East Canada	---	---	---	.70	.80	.50	.60	---	---	---	---	---	---
West Canada	---	---	---	---	---	---	---	---	---	---	---	---	---

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Bradstreet's Commercial Reports.



# **The BEEKEEPER'S EXCHANGE**

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

## **BEES AND QUEENS**

**MIDDLE TENNESSEE APIARIES**—Italian queens, 60c each. Joe B. Tate, 1029 Lischey Ave., Nashville, Tenn.

**BUY** the good comb package built on standard frames and drawn from Dadant's wired foundation. Two pounds, two combs and young queen introduced for \$3.75. Jes Dalton, Kenner, La.

**MR. BEEKEEPER**—Write and get my prices on bees and queens. A postal card will bring it. Lowest prices possible, quality of the best, full weight of good young bees, queens as good as the best. Safe delivery guaranteed. Our losses average less than 2 per cent; made good at once. Promptness of service. O. P. Hendrix, West Point, Miss.

**CHOICE** bright Italian queens that are a pleasure to work with and be proud to own. Requeen with stock that has been bred and selected in the North the past 29 years for good winterers, hustlers, gentleness and fine color. One queen 75 cents; dozen, \$8.00. Breeding queens \$6.00 each. Emil W. Gutekunst, Colden, N. Y.

**GOLDEN ITALIANS**—The same kind I have sold for many years with no complaint. Untested, each, \$1.00; \$9.00 per dozen; six, \$5.00. Tested, \$1.50 each. Breeders, the best, \$5.00 each. J. B. Brockwell, Barnetts, Virginia.

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**WRITE** for our special prices on our golden Italian queens. Sam Hinshaw & Son, Randleman, N. C.

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**GRAY CAUCASIAN** queens, July 1 to October 1: One, 50c; ten, \$4.50; eleven to one hundred, 40c each. Safe arrival and satisfaction guaranteed. Tillery Bros., R. 6 Greenville, Ala.

**GOLDEN** queens, yellow to tip: Untested, 50c; tested, \$1.00. Satisfaction guaranteed. H. G. Karns, Green Bay, Va.

**EVERYBODY** knows a price that is too low on anything, including queenbees, is sure to have its effect on quality if continued. Extra yellow Italians priced low considering quality offered: 1 to 11, 70c each; 12 to 23, 60c each; 24 to 36, 50c each; over 36, 45c each. Tested, \$1.25. Health certificate and satisfaction insured. Ask for circular. Hazel V. Bonkemeyer, R. 2, Randleman, N. C.

**PURE BRED** Italian bees and queens. Untested queens 40c each; tested, 80c. Also two-pound packages with queens. Let us know your needs. Ernest W. Peterson, Sandwich, Ill.

**CARNIOLAN** and yellow Italian queens. Tested 75c, and untested 50c each. Package bees cheap. Write for prices. C. B. Bankston, Buffalo, Texas.

**REACROFT** quality Italian queens. One, 60c; five, \$2.50. Satisfaction guaranteed. F. D. Ellenberger, Reynoldsville, Pa.

**REQUEEN** now for safe wintering and a big crop in 1933. Buy the best; it pays. Accredited and certified by the State Department of Agriculture. Untested, 40c each; three for \$1.00. Write for circular and complete price list. J. M. Cutts & Sons, R. 1, Montgomery, Ala.

**DIEMER'S** three-banded Italian queens 50c each. A discount on large orders. Yards state inspected. I send them to you quick. None better, and a lot of others not so good. J. F. Diemer, Liberty, Mo.

**GOLDEN** Italian queens, good honey getters and gentle, 40c each; \$4.00 per dozen. A. M. Kelley, Bell, Fla.

**GOLDEN** Italian queens—ones that will produce nice yellow bees. The word golden just means better bred Italians. I guarantee my queens to produce workers that will bring in the honey, and other qualities surpassed by none. Price 40c each; three for \$1.00; \$30.00 per hundred. E. F. Day, Honorville, Ala.

**HARDY** northern queens—Michigan raised, three-banded Italians. Thirty-six years' experience with bees; twenty-one years' experience raising queens; years of selecting. One queen, 50c; one dozen, \$5.00; fifty for \$19.00. N. J. Smith, Coopersville, Mich.

**\$1.00** BUYS three good Italian queens; twenty for \$6.00. Requeen now. D. W. Howell, Shellman, Ga.

**ITALIAN** queens, choice stock, 35c each; three for \$1.00. Will trade for white honey, beeswax. Homer W. Richard, 1411 Champnolle, El Dorado, Ark.

**ALWAYS** requeen with northern reared lobed Italians for northern conditions. Select untested queens, 50c each. Charles L. Ruschill, Colfax, Iowa.

## **HONEY FOR SALE**

**HONEY FOR SALE**—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

**FOR SALE**—White clover honey in 60-pound cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

**HONEY FOR SALE**—All grades, any quantity. H. & S. Honey and Wax Company, Inc., 265 Greenwich St., New York City.

**HONEY**—We sell the best. Comb in carriers of eight cases each; extracted, basswood, buckwheat, sweet clover, white clover and light amber. Tell us what you can use for prices. A. I. Root Company of Chicago, 224-230 West Huron St., Chicago, Ill.

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**FOR SALE**—Northern white, extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

**WHITE** clover extracted honey. Write for prices and samples. Kalona Honey Co., Kalona, Iowa.

**HONEY FOR SALE**—Keep your customers supplied with honey. We can furnish white and light amber honey at attractive prices. Packed in 60-lb., 10-lb. or 5-lb. tins. Dadant & Sons, Hamilton, Ill.

**FANCY WHITE** Comb Honey, cellophane wrapped, priced right, packed the way buyer orders. O. R. Matthew, Virginia, Ill.

**WHITE COMB HONEY**—Extracted and chunk. Prices on request. One-pound sample, 15c. F. W. Summerfield, Grand Rapids, Ohio.

**PALMETTO** or amber honey in barrels. Peter W. Sowinski, Fort Pierce, Fla.

**FREIGHT** paid on our complete line of the world's greatest health sweets and reduced prices for July only. Honey, maple syrup, honey maple table syrup, maple candy and cream. Write today for free samples and new circulars. Griswold Honey Co., Madison, Ohio.

**FOR SALE**—Comb and extracted. H. G. Quirin, Bellevue, Ohio.

**FOR SALE**—New white clover comb honey. Lowest prices in twenty years. Write. Cellophane wrapped or unwrapped. N. B. Querin & Son, Bellevue, Ohio.

**HOWDY'S HONEY**—New crop extracted and comb; clover or raspberry—milkweed blend. Sixties by case or carload. Produced by Howard Potter, Jr., Ithaca, Mich.

**NEW** crop honey. Choice sweet clover extracted. Thomas Atkinson, R. 5, Omaha, Neb.

**HARRIS—HARRIS—HARRIS** — **HARRIS'** finest quality clover extracted honey in new sixties. One can or a thousand. Since 1878. J. N. Harris, St. Louis, Mich.

**NEW** white clover comb honey. Charles Guhl, R. 7, Napoleon, Ohio.

**NEW** honey in sixties ready to ship Aug. 1. Ask for sample and prices. Harry C. Kirk, Armstrong, Iowa.

**NEW** clover honey, comb, No. 1, \$2.50; extracted, 7c. Write for prices on large orders. F. J. Smith, Castalia, Ohio.

**NEW** crop clover extracted 6 1/2c case lots; 6c ten cases. Fancy clover comb honey. A. J. Wilson, Hammond, N. Y.

**CLOVER HONEY**—Attractive price ten cases two 60's, 1931 crop; three tons 1932 crop ready Sept. 1. Additional saving to anyone furnishing containers. C. F. Strahan, Linwood, Neb.

## **HONEY AND BEESWAX WANTED**

**WANTED**—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5 cents a pound for wax rendering. Fred W. Muth Company, 204 Walnut St., Cincinnati, Ohio.

**WANTED**—A car or less quantity of white honey in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, 816 Hazel St., Birmingham, Mich.

**WANTED**—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Hamilton, Wallace & Bryant, Los Angeles.

**WANTED**—Old combs and cappings for rendering. We get all the wax, charging but 4c per pound for rendering. High cash paid for wax. Ohmert Honey Company, Dubuque, Iowa.

## **FOR SALE**

**FOR SALE**—250 stands of bees, state inspected; 600 new supers. G. A. Kuster, Wheatland, Wyo.

**WOODMAN** section fixer, lamp, foundation cutting box and knife; \$7.00 value for \$3.25. Louis Prescott, Milan, Ill.

**FOR SALE**—Good used 60-lb. honey cans, 50c per case of two. Frank Bernhoffer, Tobasco, Ohio.

## SUPPLIES

**BEST QUALITY** bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

**THE DADANT SYSTEM IN ITALIAN**—The "Dadant System of Beekeeping" is now published in Italian, "Il Sistema d'Apicoltura Dadant." Send orders to the American Bee Journal. Price \$1.00.

**SAFIN** queen introduction cage, one, 25c; five for \$1.00. Allen Latham, Norwichtown, Conn.

**FOR SALE** — We are constantly accumulating bee supplies, slightly shopworn; odd sized, surpluses, etc., which we desire to dispose of and on which we can quote you bargain prices. Write for complete list of our bargain material. We can save you money on items you may desire from it. Dadant & Sons, Hamilton, Illinois.

## MISCELLANEOUS

**PLANS FOR POULTRY HOUSES** — All styles; 150 illustrations. Tells you the type to build for your particular locality. Secret of getting winter eggs, and copy of "Inland." Send 25c. Inland Poultry Journal, 523 Holiday Bldg., Indianapolis, Ind.

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**THE BEE WORLD**—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, Brockhill, London Road, Camberley, Surrey, England.

**HAVE YOU** any Bee Journals or bee books published previous to 1900 you wish to dispose of? If so, send us a list. American Bee Journal, Hamilton, Ill.

## American and German Beekeeping

A serial article by Dr. G. E. Roesch, Privat-Dozent at the Agricultural College at Hohenheim, Germany, appeared under the above title in the "Leipziger Bienenzeitung." Dr. Roesch recently visited the United States and eastern Canada to study beekeeping conditions.

His writings, which are above criticism, present only descriptions of the methods and economics of beekeeping on this continent compared with those of Germany. The large-scale beekeeping and the highly efficient methods in this country are mainly due to the low price of honey. A German beekeeper receives approximately four times as much for his honey and does not need to purchase motor trucks, honey houses and machinery nor hire expensive help. The comparatively large crops of the American beekeeper, which usually awaken the envy of his German colleague, make up only partly for the extremely low profits.

Dr. Roesch also noticed the small amount of honey consumed per capita in the United States of America, in spite of the great popularity of the word "honey." In his

opinion, the reasons for such imperfect market conditions lie in the fact that honey is produced primarily on an export basis. However, with the decreased buying power of the overseas countries, the American beekeeper is forced to build up a neglected inland market by means of excessive honey propaganda. Dr. Roesch emphasizes the great work of the American Honey Institute under Dr. H. E. Barnard, and now directed by Miss M. D. Fischer, who is also well known in Germany.

Dr. Roesch was peculiarly impressed by the life and the automobile traffic on the American highways, bordered by road stands and signboards. However, he did not find the signboards a disfiguring feature of the landscape.

Erwin C. Alfonsus,  
Wisconsin.

## Honey Exports Increase at Seattle

By C. M. Littelljohn  
Washington

Entering more largely into the export field last year, honey moved out of the port of Seattle during 1931 into new European markets, which have taken many tons of the product of the Pacific Northwest, according to the new statistics just compiled by the officials of the port of Seattle to indicate the balance of trade at this large American seaport.

While but fifty-two tons of honey went export from Seattle in 1930, the year 1931 was a busy one for the honey exporters, inasmuch as 146 tons of honey were exported during that annual period, or nearly three times as much as during the previous year. Considerable optimism has been expressed, therefore, for the encouragement of a large export market for the particular honey produced from the native flowers and fireweed of the Northwest district.

Further healthy indications of a better honey trade through the port of Seattle are in the fact that imports of honey were reduced. Only 113 tons were imported, as against the 188 tons of honey brought into Seattle during the year 1930. Practically all of the honey imported last year was from the Hawaiian Islands, only two tons being imported from Central America. But in 1930 Honolulu was the honeyland with the Hawaiian Islands sending all the 188 tons shipped into Seattle that year.

As to the growing export trade at Seattle, Germany, Austria and Czechoslovakia are enumerated as the three best honey customers, absorbing 118 of the 146 tons shipped abroad during the year for which statistics have recently been compiled. Countries of the United Kingdom took eighteen tons of the prod-

uct of Washington beekeepers, and France took ten tons. Although the port of Seattle faces the Orient and countries around the rim of the Pacific, strange as it seems, honey was not exported to those countries from this close western port, but to European nations via the long water route from Seattle.

## Advertising Disposes of a Big Volume of Honey

By B. A. Hadsell  
Arizona

With little frost, no snow, and no winter conditions with which to contend, we are in a position to handle many bees and honey by the carload at small expense.

Up until the last two years the bulk of our honey went to Germany and England, but when Germany put a duty of 7 cents per pound on honey and England went off the gold standard, we were left with two years' honey crop on hand.

If it had only been tons we might have consumed it in our own local trade, but to handle carloads of it was a problem. We began to advertise; got W. K. Kellogg, the cookie factories, and bakeries to advertise and use it on a large scale; distributed large numbers of cooking recipes to housewives with inducements to use honey in everything where a sweet or a spread was needed. Large signs with samples were displayed on the highways. All hands and the cook got busy selling honey. The result was that our honey disappeared like snow on a summer day.

The eastern bottling works found that they were getting short and wanted our light colored honey to blend with the eastern honey, and closed us out at an advance in price of \$400 a car above that previously received. The last car left Buckeye Valley fifteen cases short. A buyer from the Phoenix section informed me that the last car he shipped was thirty cases short. This leaves the market short of honey for about six months, until the new crop comes.

We have had more than usual heavy fall rains, which should bring heavy bloom from mesquite and other desert brush, and the desert is now green. With the rains we are now getting, it is almost sure to make the desert a sea of grass and flowers and cause an early honeyflow with many swarms. The bees are already roaring on cottonwood trees, gathering pollen. The rains have also supplied much more water than usual in the reservoirs for irrigation, which we consider an insurance for years.

**"BETTER BRED"**  
**Italian Queens now 22½c**  
**3-Pound Package with Queen \$1.50**

50 queens shipped on package bees without attendant bees, \$12.00 prepaid. Just like using queens from your own nuclei.

**Calvert Apiaries, Calvert, Alabama**  
 A. L. Webb.

**Queens 25c Each**

**Three-band Italians**

**1 - 5, 28c ea.; 5 - 100, 25c ea.**

**No Disease. Satisfaction Guaranteed.**

**C. G. Ellison, Belton, S. C.**

**L. L. FOREHAND'S**  
**Queens 30c ea.**

They are as good as money can buy. They are reared under natural conditions and backed with over twenty years of careful selecting and breeding.

Every one guaranteed to reach you in good condition and to give perfect satisfaction.

All shipments made by return mail.

**L. L. Forehand Apiaries**  
 JESUP, GEORGIA

**Are You Asking—"How Shall I Sell My Honey?"**

The best market is the home market, and there honey well packed in good looking containers sells best.

Our cans, glass, cartons, pails, and selling helps will turn the market your way.

Get your copy of our Fall Price List and Selling Helps Folder. Either price list or folder of selling helps FREE for the asking.

Send for your copies to

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**QUEENS**  
**500 More**  
**FREE**

With the first five hundred orders for four or more, we will supply one free.

**Merrill's Quality Queens**

**25c any number**

We supply only young laying Italian queens, that's why they will please you.

**Merrill Bee Company**  
 Buckatunna, Miss.

Have Reared Over 360,000 Queens

**A Smoke Method of Introducing Queens**

By L. L. Ferebee  
 South Carolina

I see no reason why anybody well versed in the nature and habits of bees cannot introduce queens 100 per cent, if he can take his time at it and the bees are nearby. If the bees are away ten to twenty miles, with outapiaries scattered out in different directions, the introduction of queens is an entirely different matter.

I have tried all the methods I have read in books and journals and some never seen in any paper. I have decided on the smoke method for practical use. When queens are bought they are introduced into small colonies, with one to three combs of hatching brood, prepared for the purpose. When they begin to lay I take these queens where they are wanted and introduce them by the smoke method. Under average working conditions we never obtain over 10 per cent safe introduction with the methods recommended on the ordinary queen cage.

There are several rules for the smoke method that must be followed. First remove the old queens and do not do any work or open any of the hives when you are introducing. Be sure there is no robbing going on and that the bees are all quiet and none fighting.

Any time when these conditions prevail is suitable, but for the sake of precaution against robbing and if no honey is coming in, take the queens and go out about the beginning of evening in warm weather.

Lay a piece of cloth across the entrance of the hive after all the bees have been smoked in, then puff in about five or six heavy puffs of smoke, being sure the smoker is giving off a dense white smoke.

At once place the mouth of the queen cage in the hive entrance, and a light smoke will cause the bees in the cage to start fanning and seek their way out. In about two minutes look carefully to see if the queen has gone into the hive or is out of the cage. If not, return the cage and wait until she is out. When you are sure she is out, smoke again with heavy smoke and go away, taking the cloth with you for use at the next hive.

If several days have elapsed since the old queen was removed, cells will have been started. Most of these will be destroyed, but for safety sake go back any time before ten days from removal of the old queen and take out the queen-cells. With this method we obtain 100 per cent safe introduction. When introducing purchased queens, at the time of taking them to the nuclei colonies of brood, we take all the accompanying bees out of the cages, fill each cage with young

bees that have hatched within twelve hours or less; any, if possible, that have only hatched a few minutes.

The cage candy with these queens is not exposed for several days and the queens are placed down in the very middle of the combs of emerging brood. If any mature bees are used when replacing the workers that have come with the queen, the queen is sure to be destroyed, for such bees will pounce right on her and never cease until she is dead.

(The smoke method is good when introducing queens that are taken freshly out of the hive, but not for queens that have just been traveling.—Editor.)

**Nature Provides While the World Goes By**

I am camping on the Hamilton Ranch in Baja, Calif., Old Mexico, 328 miles south of West Hollywood, under a pepper tree whose branches have a spread of over seventy-five feet, where the constant humming of wild bees led me to inquire about honey produced here. They say there are no beekeepers here, but wild honey is gathered and marketed in five-gallon cans which sell for \$3.00 each, delivered at this ranch.

It is brought in on the backs of burros from the mountain homes of the Mexicans, who gather it half a day's journey horseback from here. It is light colored, tastes something like clover honey, and is easy to take. Had mulberries today covered with wild honey, picked first from a big mulberry tree with a spread of thirty feet—a most delectable dish. I am hoping there will be enough left to send you a sample.

Irrigation under the able direction of an Englishman, Randall Young, developed this paradise of fruits and flowers of both zones from a desert of cacti.

An onyx headstone marks the spot where he rests peacefully under the wide-spreading branches of a pepper tree planted by his own hands in the charming garden of his creation.

The Hamilton Ranch has the Garden of Eden beat three ways: its location shows on the map, there are no forbidden fruits, and serpents, if any, are not the tempting variety.

Near both mountains and ocean its climate is delightful, even without frost or extreme heat, and there is nothing here to remind one of cities except the telephone.

It would be a fine place to sit down and let the world go by if it went by here, but it doesn't. All of these facts make it a delightful place for a vacation where game and fish are plentiful.

G. J. Fifielf, California.



## New Edition of Outapiaries

"Outapiaries and Their Management" is the title of a book by M. G. Dadant which was published in 1919. The book has enjoyed a steady sale since that time and a new and revised edition has recently come from the press.

The author spent his early years in active work in honey production and has had practical experience with every phase of outapiary management. Since his father and grandfather before him had depended upon the bees for a livelihood, he grew into the work very naturally. In such an environment it was the logical thing to consider everything from the practical standpoint of whether it could be made to pay.

This is a very practical little book and is designed to assist the beekeeper in working out a plan of operation which will enable him to care for more bees with less labor. All the factors to be considered in establishing outyards are discussed in such a way as to give the novice a good idea of the problems to be met and the best way of solving them.

The book is freely illustrated with photographs taken in various parts of America and showing apiaries and equipment of many of the foremost beekeepers. Many new pictures appear in this edition which were not present in the former one, and the type matter has been revised to bring it fully up to date. The book is printed on enamel paper and is cloth bound. The price is the same as in the former edition, one dollar per copy. It may be secured from the office of the American Bee Journal or from dealers in bee supplies.

F. C. P.

## Beekeeping in Antiquity

The University of London Press has recently published a book by H. Malcolm Fraser entitled "Beekeeping in Antiquity." Here is something new, although the subject matter is old. The author has brought together the ancient literature concerning bees in a very useful way. On reading the book one is surprised at the number of present day practices which were known to ancient bee men. Didymus, who lived in the fourth or fifth century A. D., wrote of driving the bees from the hive with smoke. Thus we see that, although the smoker in common use is a recent invention, the beekeepers have long recognized the value of smoke in control of the bees. He also advised clipping the wings of the "ruler" (queen) to prevent the bees from flying away.

The ancient Roman law relating to property rights in bees is still recognized. It was as follows: "Bees are also wild by nature. Therefore bees

## An Easily Managed Home for Your Bees

A good hive has all the room the queen needs and also room for food and young. Often over 100,000 cells are needed at one time. No hive but the Modified Dadant gives this room in one compact body. It produces big colonies and big crops.



Send for this 16-page booklet telling how the Modified Dadant Hive is used by successful honey producers.

**Dadant & Sons, Hamilton, Illinois**

## Caucasians 60c—in quantity

at Today's  
Prices

Start now to try these gentle bees. You will be surprised at the difference and the added pleasure. Our breeders are Pure Mountain Grey Bees—Right from the Caucasus.

### REDUCED PRICES ON QUEENS

1-5, 75c each; 6, \$4.00; 12, \$7.50; 50 or more, 60c each.

Free descriptive circular about these wonderful bees — Send for copy.

**Caucasian Bee Company . . . Repton, Alabama**

## True Label Characters



Designs that compel attention.

Colors that blend and please. Wording that makes a sale.

Our labels and selling helps meet these requirements at reasonable prices.

Send for Catalog and Samples

**American Bee Journal . . . Hamilton, Illinois**

# THE BEST QUEENS for THE LEAST MONEY

Orders Filled the Day Received

1 to 10 QUEENS **30c**      10 or MORE **25c**

Safe Delivery and Satisfaction Guaranteed

**CITRONELLE BEE COMPANY**  
CITRONELLE, ALA.



## DISPLAY YOUR HONEY PERFECTLY

*Dependable Service on Standard Sizes*

Our fluted honey jars are made as per specifications of Standardization Committee of the American Honey Producers' League

*Distributed by*

**DADANT & SONS, HAMILTON, ILLINOIS**  
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**G. B. LEWIS CO., WATERTOWN, WIS.**

*For Michigan*

**A. G. WOODMAN COMPANY, GRAND RAPIDS, MICH.**

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1921 E. Fourth St., Sioux City, Iowa

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**HART GLASS MFG. CO., DUNKIRK, IND.**

# HART

## BOTTLES & JARS

that swarm upon your tree, until you have hived them, are no more to be considered your property than the birds which build their nests on your tree; so if anyone hives them he becomes their owner."

There were some absurd errors, such as that bees balance themselves with a stone of small weight. There was a widespread traffic in honey and wax and the available supply was in great demand.

The book is illustrated and contains 157 pages, cloth bound, and may be secured from University of London Press, 10 Warwick Lane, London, E. C. 4, England. The price is 4/6, about \$1.15 in our money.

## Tangerines Dipped in Honey

By C. M. Litteljohn  
Washington

Luscious new use of honey, in connection with one of the distinctive citrus fruits, has produced a rare confection that is making its appearance ubiquitously on the Pacific Coast, where both tangerines and honey have been seen in large quantities before they have become affiliated in the new product.

Small tangerines, peeling and all, have been dipped in the product of the bees, and their tart taste has been quaintly and pleasantly softened by the honey, although still strong and distinctive withal. This delightful confection has been placed in open-topped cardboard containers, with cellophane on top to increase its sellability.

Extensive distribution of the new product is being undertaken in stores where candy is sold, the innovation giving new sensations in the mouthing of sweets and providing new outlets for the little citrus fruit, sometimes known on the coast when imported in handy wooden containers from the Orient as "Japanese oranges," and a large quantity of honey with which the fruit has been saturated and allowed to percolate through every pore of the fruit's peeling.

Ready salability of the new honeyed product is created through the newest merchandising method. Packages of the honeyized tangerines, resembling to all outward appearance a fruit glaze or crystallized fruit offering, are so modern and distinctive. There is no closed lid or box top to these containers, the bottom of the soft, luscious fruit, packed about a dozen to box, resting on white cardboard, while the top of transparent cellophane allows the alluring fruit to show through its sheen. This open display makes contact with the customer, and chocolates of the candy shop go, for the nonce, into the discard, as the new delight is chosen for its sweetened-tart appeal that gives the sensation of taste a new thrill.

# Where'll Your State Stand in 1932?

*Beekeepers in thirty states and two foreign countries believe  
the American Honey Institute a good investment.*



## HONOR ROLL

State	Amount from February 1, 1931, to April 1, 1932	State	Amount from February 1, 1931, to April 1, 1932
Michigan	\$175.76	Washington	24.50
Illinois	146.25	Pennsylvania	23.00
California	112.05	Arizona	22.50
Ohio	131.50	South Dakota	21.04
New York	129.00	Wyoming	20.00
North Dakota	71.25	Florida	6.00
North Carolina	100.00	Louisiana	15.00
Iowa	44.00	Kansas	9.00
Wisconsin	98.00	Vermont	7.00
Nebraska	64.00	Virginia	2.00
Minnesota	60.38	Maryland	5.00
Indiana	40.47	Massachusetts	4.05
New Jersey	25.00	Missouri	3.00
Texas	25.50	Utah	1.00
Connecticut	25.00	South Africa	1.88
Colorado	24.50	Canada	.75

## SUPPORTING MEMBERS

*G. B. Lewis Company, Watertown, Wis.	\$1200.00	Hazel-Atlas Glass Co., Wheeling, W. Va.	100.00
*Dadant & Sons, Hamilton, Ill.	600.00	Hart Glass Mfg. Company, Dunkirk, Ind.	50.00
*Sioux Honey Ass'n, Sioux City, Iowa	600.00	D. D. Stover, Tibbee Station, Miss.	50.00
A. I. Root Company, Medina, Ohio	500.00	Standard Churn Company, Wapakoneta, O.	40.00
*August Lotz Company, Boyd, Wis.	300.00	Owens-Illinois Glass Company, Toledo, O.	15.00
Bee Industries Association	250.00	Leahy Mfg. Company, Higginsville, Mo.	5.00
Colorado Honey Prod. Ass'n, Denver	237.50	A. I. Root Company of Syracuse, Syracuse, N. Y.	15.00
John G. Paton Company, 230 Park Ave., New York City	140.00	A. I. Root Co. of Iowa, Council Bluffs, Ia.	25.00
American Can Company, New York City	100.00	A. I. Root Company of Chicago, Ill.	5.00
Continental Can Company, 100 E. 42nd St., New York City	100.00		

\*Paid 20 per cent additional assessment in order to keep Institute going.

The Honor Roll above does not give amounts received before February 1, 1931, nor since April 1, 1932.

How are you helping? Will you bring up your quota for next year?

Note the new address of the American Honey Institute.

**American Honey Institute, 417 North Few Street, Madison, Wisconsin**

(This space donated to the cause of the American Honey Institute by Dadant & Sons)



## Looky Here Large, Vigorous, Prolific, personally reared QUEENS

ITALIANS—One or two, 35c each; three for \$1.00; four or more, 30c each  
CAUCASIANS—50c each, any number

EVERY QUEEN GUARANTEED TO PLEASE

ROY S. WEAVER & BRO., Navasota, Texas

### Mention the American Bee Journal When Writing Advertisers

#### Read This for Profit—

#### 3-BANDED ITALIAN QUEENS

They will answer your requirements. We feel that we can make this assertion with safety, as they have been shipped to every state and province in U. S. A. and Canada. Can furnish address of dozens of satisfied customers anywhere in above mentioned territory.

Can give 24-hour service when so desired. If we fail to do so, will return your money if you wish.

Better yet, they are 25 cents each. **SHAW & HOMAN, Shannon, Miss.**

## Root Northern Bred Queens

**QUALITY**—Our breeding queens are carefully selected. Our queens are scientifically reared by expert queen breeders.

**SERVICE**—We are logically well located for giving quick service, in fact we can ship on the day orders are received.

**AUGUST** is a splendid month for requeening, because young queens produce vigorous colonies for wintering and for next season's honey flow.

#### A BIT OF QUEEN NEWS

Late last summer we were fortunate in getting a few queens from Northern Italy. These queens are doing exceptionally fine work. They look good to us. We are prepared to offer daughters of one of these imported queens at our regular prices. We have a separate mating yard for imported stock. Try some daughters of imported stock to see how they compare with what you have.

#### Queen Prices—Postage Paid from Medina

1 to 9	10 to 24	25 to 49	50 to 99	100 or over
Untested \$1.00 each	\$ .90 each	\$ .75 each	\$ .65 each	\$ .60 each

Note—Our Untested Queens are young laying queens reared this season, that are practically all purely mated and sold when mated.

**The A. I. Root Company, Medina, O.**

## MACK'S QUEENS

Balance of Season 50c ea.

Will please the most particular  
Beekeeper.

**HERMAN McCONNELL**

(The Bee and Honey Man)

Route 2

Robinson, Illinois



## CAUCASIANS

have all the good traits of Italians, plus extra gentleness, less swarming, more prolific, longer tongues, less robbing and more dependable workers. Wintered out of doors, and bred in a climate like their native land—severe winters, cold windy springs—thus insuring their good qualities. Breeders from the mountainous Province of Terek.

## CARNIOLANS

Best of winterers, very gentle, very prolific at all times and most excellent workers. A Canadian customer secured an average of 400 pounds extracted spring count. Others nearly as good. My own best average 180 pounds in three weeks. My own and Jan Strgar imported strains.

#### Prices of both races:

1 Untested Queen	-----	\$ .90
6 Untested Queens	-----	3.50
12 Untested Queens	-----	6.50
1 Tested Queen	-----	1.25

Both these races give better results in northern and western sections of our country where the flow comes early. Use some Caucasians or Carniolans among your Italians. Both these races will improve your Italians in gentleness and honey gathering. Depression times necessitate your using the most dependable bees along with short cuts in management.

Albert G. Hann, Glen Gardner, N. J.



**PORTER**  
BEE ESCAPE  
Saves Honey,  
Time, Money

**R. & E.C. PORTER, Mfgs., Lewistown, Ill.**  
(Mention American Bee Journal when writing)

RENEW YOUR SUBSCRIPTION  
NOW

## Reversing Basket Extractors

	Size of can	Size of basket	Price
Style 15 - 2 basket	20x30	10 inches wide	\$20.00
Style 15 - 4 basket	24x32	10 inches wide	25.00
Style 17 - 2 basket	24x32	12 inches wide	22.50
Style 20 - 2 basket	24x32	13 inches wide	27.50

Woodman's Reversing Basket Extractors are all built so that the baskets can be lifted up and out for cleaning or to insert a capping basket to dry cappings. The Reel and Baskets are built of heavy materials and are extra sturdy and strong. No solder is used, they are all riveted.

Send for special circulars describing the Universal Extractor, the most efficient of all hand power extractors and other special extracting equipment

GET OUR PRICES ON TIN CANS AND PAILS

Shipment from Chicago or Wheeling, W. Va.

**A. G. WOODMAN COMPANY**

-:-

**Grand Rapids, Michigan**





Dress  
Your  
Honey  
Well

Choose Your  
Labels Carefully

Now

is the time to order honey labels, before the rush begins. We have a reserve stock of over a million awaiting your imprint.

How many do you need?



Honey  
Selling  
helps of  
all sorts.

American Bee Journal, Hamilton, Ill.

## ROOT QUEENS

WE ARE PREPARED TO FURNISH YOUNG MEDINA-BRED ITALIAN QUEENS DURING SEPTEMBER AND OCTOBER

Prepare now for next season's honey crop by having every colony headed with a good queen

QUEEN PRICES — POSTAGE PAID FROM MEDINA

	1 to 9	10 to 24	25 to 49	50 to 99	100 or over
Untested	\$1.00 each	\$0.90 each	\$0.75 each	\$0.65 each	\$0.60 each

Note—Our untested Queens are young laying queens reared this season, that are practically all purely mated and sold when mated.

The A. I. Root Company, Medina, Ohio

## HONEY WEEK STICKERS

Beautiful Honey-Girl design, embossed silver on blue field, with dates and "National Honey Week." Size 1"x2". For use on envelopes, letterheads, billheads, honey packages, honey labels, and so on.

### How Many Will You Need?

Remember the dates for Honey Week—November 7-12.

The Institute will order just enough of these stickers to cover the orders received. Send in your order right now or you may not get enough for your needs during this important week.

PRICES	
Lots of 50	\$.20
Lots of 100	.30
Lots of 500	1.00
Lots of 1000	1.75
Lots of 5000	8.25
Lots of 10,000	14.00

If the Institute can place an initial order for 100,000 stickers in lots of 1,000 can be sold for \$1.50; lots of 5,000, \$6.75; lots of 10,000, \$12.00.

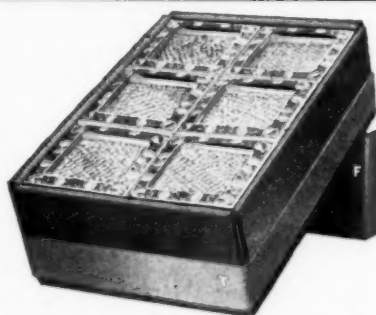
Send your order to—

AMERICAN HONEY INSTITUTE

417 N. Few Street, Madison, Wisconsin

## Up-to-the-Minute Cartons, Wrappers, Corrugated Paper Shipping Cases, for Comb Honey

Ask for samples of our new decorated wrappers and cartons, and state the quantity you can use.

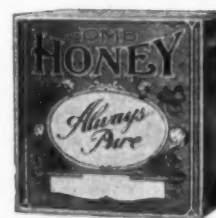
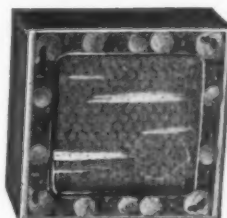


DISPLAY CARTON — holds 12 sections 4 1/4 x 4 1/4. Packs of 10, \$1 00. Weight, 13 lbs. Follower to be used when sections are packed on end instead of side and tape for holding flaps included.

GET OUR PRICES  
on Tin Cans  
and Pails  
Shipment from  
Chicago or Wheeling.

Fall Price List Now Ready

The American Honey Institute is boosting the honey market demand for you and needs your support. All who benefit should contribute.



A. G. WOODMAN COMPANY . . . GRAND RAPIDS, MICHIGAN